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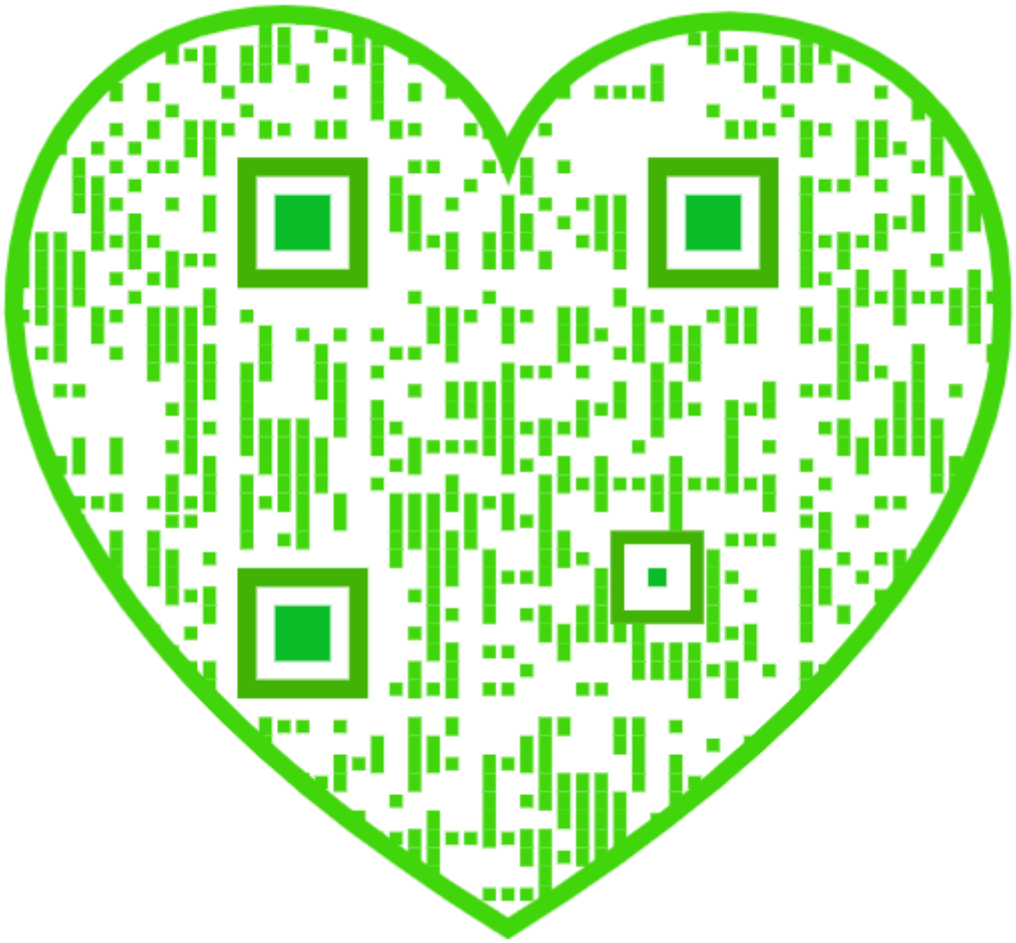

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AMERICAN BEE JOURNAL.

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Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

Translated for the American Bee Journal.

Bee-Keeping in the Valley of the Weser.

The valley of the Weser, in the neighborhood of Rinteln, is admitted by every stranger to be one of the most beautiful and favored spots in Germany, and yet bee culture, especially rational bee culture, is so much neglected, that an improvement is greatly to be desired.

In Rinteln, a town of over 5000 inhabitants, there are not, leaving out my apiary, fifteen swarms! That more bees are not kept here is to be wondered at, as nearly every house has a large garden attached, and most of the owners of houses are also farmers to a greater or less extent. And the open country could hardly be better adapted to bee culture. The largest apiaries are found five or six leagues from here, in the neighborhood of Stadhagen and Rodenberg. The bee-keepers of that locality wander about with the bees in the Heath. The Weser Valley here, however, having an early yield of honey which is unsurpassed, has for years been visited every Spring by bee-keepers with from 200 to 300 stocks in straw baskets. The apiarian remains here until the blossoming of the flowers in the Heath. The Spring honey harvest here is wonderful. Then comes the blossoming of the fruit trees, of which there are a great abundance in the gardens, and along the roadway, giving an abundance of honey and pollen; then follows the harvest from the seed fields, which is usually very abundant. Nowhere are there greater quantities of rape raised than here. Along the Weser are found many meadows, rich in soil and producing much honey. Boundless fields are covered with the most beautiful flowers. On the heavy grounds beans are cultivated; and along the roadways, etc., millet grows and blossoms until late in Fall.

I can this year report the honey yield to have been very good, because in the Summer fruit fields there was a great quantity of wild heather, so that they appeared as yellow as if covered with rape blossoms. Thus, it is no wonder the bees had no more room in which to store their honey.* I observed that the queen stopped laying for upwards of three weeks since, just as soon as the cells were built, and filled with honey. In such years those stocks are of the greatest advantage, which are the most populous. It is true we receive somewhat later pasturage from the forests, yet our main dependence is upon the previously mentioned plants. This year I learned the difference between the German and Italian bees. The latter are much earlier with their brood, and are, therefore, best suited for localities like this. For many years I have observed that the German bees only become strong and populous when the honey harvest is on the decline, while the reverse is the case with the Italians.

I have the pleasure of being the first person in this neighborhood to adopt the movable comb system, and also to introduce Italian bees.

I secured the Italian race without much trouble. I engaged a queen in the Autumn of 1871, from Herr Henrme of Nierburg, and received a beautiful specimen with a few worker bees. These I introduced in the usual way into a stock of German bees, which I had eight days previously unqueened. Before introducing

*Here was a chance to use the honey emptying machine.

the queen I carefully examined the hive, and destroyed the queen-cells that had been begun. The queen was warmly received, and in a few days the bees released her of their own accord. The stock wintered well, and was one of the best of my stocks. Towards Spring I found many young Italians. That Summer I made from it five new swarms. My greatest care was, to have these beautiful colored queens purely mated. I separated them half a league from the common bees, and attained my object. I could last Summer have raised a large number of queens, but I wished first to test the virtues of the race. I wintered six Italian stocks. As these made their appearance this Spring to my full satisfaction, towards June I made ten artificial swarms, some having most beautiful queens.

The mother swarm I divided three times, and yet it swarmed four times. Through these after swarms I received a number of queens which I substituted for common ones. I do not desire to remove all the common queens, yet it would be possible for me this Summer to have Italianized all my stocks.

It is with great sadness that I see B culture so much neglected in this favora ble locality.

WILHELM BORNEMANN.

Rinteln, July 10, 1873.

For The American Bee Journal.

Bee Anomalies.

One pleasant afternoon last August, as I was standing near one of my nucleus hives, I observed a commotion at the entrance, and soon saw that the naughty little fellows had it in their heads to leave their home. I let them have their own way, contenting myself with observing their actions. They soon settled on a bush near by. After requesting my assistant to hive them in a small box, I went to the deserted hive and opened it, and found plenty of brood and honey, satisfying myself that they did not leave for the want of these. As the hive was well shaded, they did not desert because it was too hot.

I put them immediately back into the hive from which they came; but I had no sooner done this, than another nucleus quit its hive and settled on the same spot that the first one did. This I also put back.

Having some curiosity as to how the "pesky chaps" in the first hive were behaving themselves, I opened it and found them engaged in killing their queen. As this queen had mis-mated with a black drone, I let them alone, and in an hour's time they had her carried out "a corpse."

From hive No. 1, I went to hive No. 2, and found them treating their queen i similar manner. As the progeny of queen was pure, I caged her, and kept confined until their fiery ardor co down. She was then kindly receive

I can only account for the stra duet of these bees, by supposi the honey harvest at the tir they became discouraged to leave; and as I put their will, they be queen, and det raise another

Have o lar cas

I n i the I me, I fc ght c een on the t me, in act of laying. As as my eye caught sight of her, I con- ded at once that she was a usurper, and had displaced my old, familiar queen (sixteen months old, with one wing clipped). But on looking on the other side of the card of comb, I found my old queen, occupied with her usual pastime of laying, and looking as though she was per home. I caged the would-be usur gave her to a colony from which I ken a queen. My queen with the wing seems to be as prolific as eve far as I can see, shows no signs o ished vigor. This case, while it e es no rule, proves that it is pos two laying queens to be in one hi same time peaceably performi functions.

J. P. H. E

Augusta, Ga.

Prof. Gerstocker, of Berlin, Pru "The Egyptian bee is nearly a thir than the common bee. The abd sembles that of the Italian but the is yellow, the downy hairs of the thorax are whitish."

The Honey Extractor.

AN ADDRESS BY A. I. ROOT, OF MEDINA, OHIO, BEFORE THE MICHIGAN BEE-KEEPERS' ASSOCIATION.

Mr. President, Ladies and Gentlemen—We have been requested to address you on the "Honey Extractor, its use and benefits," but before so doing would remark, that should we here repeat much that has been gone over before, we hope to be excused on the ground that much repetition seems to be necessary to induce bee-keepers to give the credit that is due to this implement of the apiary.

About the year 1856, we, as an experiment, moved a small colony from its stand in the month of June, and placed in its stead a hive containing only empty combs with a caged fertile queen. On releasing the queen, forty-eight hours afterward, we were so astonished at the appearance of things that we weighed the hive, bees and all, and found that it had gained in the interval, thirty pounds.

The question at once arose whether they would not go on increasing at the rate of fifteen pounds per day, for some days to come, were they furnished with facilities in the shape of empty combs as fast as they were filled, for none of our other colonies, though equally strong, had made any such increase in the same time.

Shortly afterward, E. Van Slyke, in the *Bee-keepers' Gazette*, solved the problem for us by his notice of the German Centrifugal Machine, and soon we had hastily extemporized a rude tin can with revolving frame inside, made of iron wire and hair-cloth. A brief trial of this rude machine, in a half finished state, convinced us that combs could be made empty in a twinkling and without injury, and before the season closed we had half a ton of nice honey put up in quart glass jars, neatly labelled, and these sold rapidly for a time at one dollar each.

After cold weather came on, the honey of course, candied, and our beautiful honey that had been so much admired for its transparency and purity, presented more the appearance of jars of *lard* than anything else, and in spite of the fair reputation that we had always borne, there began to be considerable "talk" that we had manufactured the honey, and our bees *didn't* gather so much, for it was "actually turning back to sugar." However, the honey all went somewhere before another season, and we indulged through the Winter in "bright visions," and before "fruit blossoms" we had purchased one pound jars to hold a ton, and labels in two colors for all sources we could think of from which our bees might gather honey, so as to be all ready for the coming harvest. By the way, we have just been looking over our unused labels and find those printed for Fruit blossoms, Locust blossoms, Alsike Clover, (we had all of an eighth of an acre,) Buckwheat, and Autumn wild-flowers nearly all remain on hand. White clover and basswood being the principal well defined sources.

Well our jars to hold a ton were soon filled, and we need not tell here how we borrowed all the wash boilers in the neighborhood, and washing day *did* come, and our bottles *didn't* come; but it was all made "lovely" and we sold nearly three tons of honey in the one and two pound bottles. But cold weather came again, and again it looked like lard and wouldn't sell, and, "more too," in the candying process it pushed the corks out of the bottles, and some of the boxes had been left "wrong side up," and the labels were spoiled on those that weren't wrong side up, and as a last resort we poured or *tried to pour* the honey out those little bottles into barrels, and they had to be warmed, and if we hurried them to get through the "muss" they broke, and now we don't put our honey into glass jars until they are ordered in that shape. We use nothing smaller than quart fruit jars, and never try to hold honey with corks, but use those jars that have secure fastenings equal to all emergencies: those with glass covers and a metal clamp, called the Haines Fruit Jar, we like best.

Again, during a very rapid yield of honey, combs are sometimes filled before the honey has had time to ripen, and some that we bottled in that state came so near fermenting that it gave extracted honey rather a bad reputation, and justly so, for we were astonished at the contents of some of our own when picked out at random and brought to the table. At first the idea was quite romantic of bottling the "nectar" fresh from the flowers the same day it was gathered, but even our

favorite White Clover under such circumstances had a decidedly *green* taste, and, unless evaporated by setting the jars in an oven until the honey attained the desired consistency, would most assuredly encourage a preference for old-fashioned comb honey.

Honey when extracted from sealed combs, or at a time when the bees just begin to seal it, we think, however, is in no respect different from, or inferior to comb honey, and we think most people will, after a time decide that wax is not particularly desirable as an article of food.

Instructions for the use of the extractor we think are hardly needed now, for "Young America" very soon finds a way to get out the honey after he once gets an idea of the *modus operandi*.

Uncapping the combs, it is true, once seemed a formidable task, but just hand your honey knife (it must be very thin, very sharp, and of the finest steel), to some one of our bright, keen, go-ahead feminine friends, tell her what is to be done and after a little practice her knife will glide under the caps and roll them off in a sheet (no hot water is needed) at a rate that will convince any "lord of creation" that at least a *part* of bee culture is women's work.

Also in using the extractor, many have been led to think the operation a laborious task because their machines were heavy and cumbrous, with gearing like a fanning mill, and even yet we find it hard work to convince many that it is a great waste of strength and time to whirl a can, honey and all, at the speed necessary for the honey to fly out, when only the comb itself needs whirling.

It is for this reason that we so strongly urge that every apiarist should have but one sized frames in his apiary, and have his extractor made to fit them and *no others;* for to make a frame of wire cloth with the necessary supports and braces larger than the comb we use, to be constantly brought up to the proper speed and quickly stopped, simply because the manufacturer was obliged to make his machines large that they might fit all frames, it seems to us, is very poor economy.

The smallest frame generally in use is the Gallup frame, eleven and one-fourth inches square, and the largest is the Quinby, twelve by eighteen and one-half inches. Now to revolve the ponderous frame necessary to receive the latter in extracting combs of the former size would be a constant waste of strength; yet there is no objection to using the large frame and large extractor, for with all large frames work is pushed more rapidly to compensate for an increase of power being demanded. Also with the small extractor the small frames could be handled and extracted with much greater rapidity.

An extractor made expressly for the Langstroth frames may be made very light and work very easy, for if placed longest way up and down, the wire cloth may come within five inches of the shaft, and its length may just as well be two inches less than the length of the frame, for the attachment of the comb to the wood is ample support.

Now as the Langstroth frame is but ten and one-eighth inches broad, we cannot afford to make the extractor frame more than ten inches, and nine and one-half inches would be better economy for a very light running extractor; but this could not be used for the Gallup frame, unless increased to eleven and one-half inches or more. Then comes the American frame, twelve by twelve inches, or old style, twelve by sixteen inches, and perhaps we might as well use a Quinby extractor for all of the American frames, even at the expense of whirling some superfluous metals below the comb.

Strips of folded tin seem to combine more of the qualities of strength and lightness than any other material we know of for making the inside framework to an extractor, and a tin tube makes all the shaft that can be needed. We would always have both top and bottom bearings of tempered steel, and, to conclude, we know of no better winter amusement for the bee-keeper than to see how nice an extractor (*i. e.*, light, strong, and easy running) he can make, or at least can make with the assistance of his tinner, and we would advise every bee keeper to get on friendly terms with his neighboring tinsmith by all means, for they are destined, it seems to us, to be our greatest allies.

As to the "use and benefits" of the extractor, really it seems to us that our friends need no remarks on this head. We have learned to build up colonies, rear

queens, increase the number of our stocks artificially, and we feel like adding, how to winter successfully, and with certainty also, but we should feel lost to attempt any of these without the extractor, most especially the latter. Before the advent of the extractor, even with movable combs, the progress in the interior of the hive was mostly guesswork, and only viewed at rare intervals and with the feeling that it was an intrusion.

Now we watch the progress of honey storing and comb building, even to seeing every comb that is built and whether it be worker comb, strait, etc.; our queens are seen, their fertility noted, progress of brood rearing, amount of pollen on hand, what becomes of it, etc. Swarming is kept under almost entirely by its use, and the disorderly work that follows almost always where natural swarming is allowed, is avoided.

Last and not least, without the use of the extractor we should be almost powerless to avert the consequences of Bee Malady in wintering. By removing natural stores entirely, and supplying them with food of *known* and *invariable* quality, we are no farther depending on the chance that may perhaps have provided wholesome food for Winter.

For The American Bee Journal.

How to Feed and Winter Bees.

Messrs. Editors: In response to many inquiries in regard to keeping and wintering bees, please give the following an insertion in the AMERICAN BEE JOURNAL if found worthy.

To each quart of sugar add one pint of hot water, heat to the boiling point and skim; or to every three pounds of sugar add two pounds of hot water, stir, heat, and skim as before directed. As soon as cool enough it is ready for the bees.

For feeding in the Spring, Summer or early in the Fall, a common grade of good sugar does very well; but for late Fall or Winter feeding, use the most refined grades. Feeding for Winter should be done during warm weather, soon after the first killing frosts and as fast as the bees can store away the syrup, and until the brood combs have been well filled. Molasses, sorghum, or the poorest grade of sugar should never be used. Good sugar is the cheapest, and is also healthy for the bees. Honey from other hives often proves fatal to them while confined to their hives. When bees are fed late in the Fall, or during continued cold weather, place their hive at an open window in a room kept constantly warm, where the bees can crawl back into the hive after flying. Keep the room warm until they have stored, *evaporated*, and *sealed* over enough syrup to last them until Spring. With the Universal Hive, as patented Aug. 26, 1873, I accomplish the same thing without letting the bees out, by placing a screen in front of the hive, securing a space for the bees to fly in. A frame of empty comb filled with syrup, poured into the cells from a suitable hight, may also be placed between the screen and the end of the hive, which, being exposed to the light and the open air, will cause the bees to remove the syrup to the interior. By this means the bees may be kept in a parlour, or any other suitable, warm room while being fed, and at any season of the year. When feeding bees in the Spring, or any other time, care should be taken not to give them much more syrup than they will consume in preparing food for the young.

In judicious feeding lies one of the great secrets of success. Plenty of flour also should be given to the bees as early and late in the Spring as they will use it. It may be protected from robber bees by means of the screen arranged as already pointed out. In the sunshine is the most favorable place for the flour, which may also be made of different kinds of grain.

A *cool*, *still*, *dry*, and perfectly *dark* place, with *thorough ventilation* to the hive, is the most favorable place and condition in which to winter bees. They should be kept as quiet and free from disturbance as possible. To prevent the accumulation and retention of dampness or water, the hive must be well ventilated, and should also be so arranged and protected that the bees can economize their animal heat to the best advantage. Proper conditions will ever secure success in wintering bees. The required conditions may be enumerated as follows: 1st. A productive queen, with bees enough to rear brood. 2d. Suitable combs stored with wholesome food. 3d. A pure atmosphere of a suitable tempera-

ture, about 40° or 50° above zero being the best. 4th. No disturbances of any kind, with a proper exclusion of light—total darkness and stillness being the best for keeping the bees quietly confined to their hives. A good method of out-door wintering is to set up and tie a shock of corn stalks around the hive, enough to break the winds and keep the hive dry, at the same time packing plenty of hay or straw around and over the frames, after properly ventilating and protecting the bees from the mice, and also securing the bees a small and suitable passage to and from the external atmosphere. The straw and fodder will absorb the moisture collecting around the bees, conveying it to the external atmosphere and also more fully protect them by confining their animal heat.

I hope the foregoing may enable some of my fellow bee-keepers to be more successful in feeding and wintering their bees than heretofore. A. T. WRIGHT.

Chicago, Ill., Dec. 1, 1873.

For The American Bee Journal.

Adam Grimm's Bee-feeder and Smoker.

In the December JOURNAL, Mrs. Lucinda W. Harrison wants to know why I did not describe Mr. Grimm's bee-feeder and smoker. I thought I would leave that for Mr. G. to do, but as he has not done so, I will do it now. Ladies are said to have a lively imagination, so, Mrs. H., please try and imagine this description.

BEE-FEEDER,—a tin can four and one fourth inches in diameter, and four inches high; a hole in the center of the end, one and one half inches in diameter, covered with perforated tin, soldered on; a small hole near the edge of the same end, on which is soldered a screw cap, the same as on kerosene cans, with the rim of the cap cut down so as not to project over five eights of an inch from the can. A rim is soldered on to the end of the can, three fourths of an inch wide, so that when the can is turned with the hole downwards, there will be room for the bees to come up under it, and eat honey, syrup, or water through the perforated tin. Fill the can with a tunnel through the screw cap, turn the cap on tight, and with a quick motion turn the can bottom up over the bees, when the atmospheric pressure will keep the liquid from running out, except at first, when a teaspoon-full or so will drop, which the bees will take care of. The hive should be as near level as possible. Sometimes when the bees do not care for the food, or the weather is too cool, drops of moisture will gather on the can, and form a draft for the syrup, which will act the same as a half dozen bees, and the feeder will leak a little. The can must be perfectly air-tight. I give mine a couple of coats of paint, outside, which keeps them from rusting.

SMOKER,—a tin tube, one and one-fourth by six inches, ends covered with perforated tin, pressed inwards; two mouth pieces fitting over the ends of the tube, removable, and tapering to a point, with a knob on each to hold between the teeth like the stem of a pipe. To use it, fill one of the mouth pieces with tobacco (I suppose fine rotten wood would do), light it, and crowd it on to the table, then blow through the other mouth-piece, and there is your smoke. For those who use the weed, it is very handy, for it can be held between the teeth, through a hole in the vail, and the smoke directed to different places, while both hands are at liberty to handle frames, etc. But for those who do not use tobacco, and certainly ladies, I think a piece of rotten wood is far preferable. A little cup with handle and perforated tin bottom, is a nice thing to lay the wood in, when the smoke can be blown down through it, and no danger from fire when it is set down. If Mrs. H. does not understand the description of the feeder, I will send her a sample by express for twenty-five cents, and her tinman can make them from it. W. M. KELLOGG.

Oneida, Ill., Dec. 19, 1873.

Honey may be kept in perfect purity for years by boiling the strained or extracted article, then skim it carefully, and seal it up air tight, as fruit is canned, then keep it in a *cool, dark* place.

As a supply for the Winter, a strong stock should, on the first of November, contain at least one pound of honey for every thousand bees; and a weak stock should then have a pound and a half for every thousand bees.—*Hoffman.*

THE WINGS OF THE BEE.

Physiologically Considered as Organs of Flight and of Special Sensation.

The following paper was read before the Bee-keepers' Convention, by Gen. Adair:

To the novice the wings of a bee appear as a dry membrane or tissue of skin, stretched over a frame-work of as equally dry and lifeless ribs of hard, elastic, horny matter. He does not suspect that they have other than to enable the bees to fly, or that their loss or destruction does other injury than to disable them from flight. It is a common practice even among well informed apiarians to cut off the wings of the queen to prevent her going off with a swarm. A better acquaintance with the structure and uses of the wings would show that any such mutilation must be injurious.

Bees do not breathe through the mouth, neither do they have lungs, like the higher animals. Respiration is carried on through an intricate ramification of minute tubes called *trachea*, having their outlets or mouths as pores (called spiracles or *stigmata*) in the sides of their bodies, under and behind their wings. Through these breathing pores the air is led by those delicate tubes to every part of the body, even to the tips of their wings.

Bees have no heart as higher animals have. A tube, or as it is called, a "dorsal vessel," lying just beneath the middle line of the back, and extending from the head to the tip of the abdomen, performs that office. The blood is received into this tube, and, as bees have no veins proper, it escapes from all parts of the tube and traverses the body in currents, bathing all the organs, even to the extremities of the wings.

The nervous system of bees consists of a cord, or rather a double cord, commencing in a knot in the head, which is their so-called brain; from thence it extends throughout the whole length of the body under all the internal organs, resting on the "floor" of the body-walls. On this cord, at intervals, there are swellings (*ganglia*) from which fine filaments are sent out, which are special nerves for the various organs to which they lead; one branch passing to the wings is distributed through all parts of them.

The horny frame upon which the fine membrane of the wings is stretched, is all of it composed of hollow tubes of a hard substance called *chitine* (the same substance that constitutes the hard part of the organs and the crust of all insects). Those tubes are double, being one tube inside of another. The inner ones are extensions of the *trachea* through which the air circulates in breathing; between which and the other is a space through which the blood circulates, and is brought in contact with the air through the thin walls of the air tubes, just as the air and blood are brought together in the human lungs, and with the same effect.

Thus we see that the wings, besides being organs of flight, are in reality lungs. The blood in the wings, however, is not confined to those tubes, but circulates like the sap in the leaves of plants to all parts of them, and, it is likely, is thus also aerated.

The nervous filaments we have also seen pass to the wings. They follow these tubes, and all the fine venations, and terminate in every part of the wings in what are called nerve filaments (papillæ), which in all animals are vehicles through which all sensations are perceived; so that we may infer that the wings of bees, besides giving the power of flying and acting as lungs, are also organs of sensation of some kind. All parts of the human body have these nerve filaments on the surface, through which the sense of touch is exercised. The eye has them so modified that they give us sight. On the tongue they give us taste; in the nose, smell, and in the ear, hearing—in each case modified to give different perceptions. For what purpose the wings of bees are so supplied has not been determined. We would of course conclude that the wings were not organs of sight or taste.

In all the investigations of naturalists none of them have been able to locate the organ of smell, although the belief is that it is the most powerful of all their senses and the most necessary to them in searching for honey. By means of it, it is supposed that they recognize each other and distinguish between their fellows and strangers to the colony. Some have suggested the antennæ as the organs of smell, but as they appear to be poorly adapted to perform such an office, it is just about

as likely that they smell with them as that they see with them, which some have supposed they did. Invisible and subtle particles emanating from odorous bodies (often so fine that they elude all attempts to detect them by any other means), coming in contact with the olfactory nerve-fibers, produce the sense of smell. These atoms are mixed with and float in the air, and in order to collect them a considerable volume of air must be made to pass over the surface—a thing which the wings certainly accomplish in an eminent degree. It is highly probable that the sense of smell is lodged in the wings.

The sense of hearing in bees has never been located by naturalists, although that office has by some been attributed to the antennæ also. Is it not more probable that the wings exercise it? The impression of sound is produced on the organs of hearing in all animals by vibrations of elastic bodies (commonly the air). A delicate, thin membrane stretched across what is called the drum of the ear, receives the impression, and communicates it by means of an intricate arrangement of parts to the auditory nerve-fibers, or *papillæ*. What appendage of the bee would be more suited to receive such impressions than the thin, stiff membranes composing the wings?

But it is not intended in this article to discuss these questions. I only throw them out as suggestions. Whether the wings are the organs of smell or hearing, or not, does not materially affect the point I wished to make, *i. e.*, that the clipping of a queen's wings is an injury to her. We have seen that they perform the office of lungs, and that a queen with clipped wings is in the same condition that a man would be with part of his lungs gone. Those who have seen human beings in that condition need not be told how useless they are for the active duties of life. An insect like the bee, with a differently distributed vitality, may not be injured to the same extent, but that it is injurious no one certainly can doubt; and if by the mutilation, the sense of smell is destroyed, and the queen rendered deaf, her usefulness would certainly be impaired.

In the act of flying the bee makes another use of the tracheæ. At the moment of elevating its wings it may be seen to increase in size suddenly, which is the effect of drawing in through the spiracles a quantity of air, which is distributed over the whole body, thus rendering it of less specific gravity; the air being further expanded by the warmth of the body acts like the heated air of a balloon, and enables the insect to rise easily and sustain a long flight, even when loaded with honey and pollen. In the act of alighting it expels the air with which it has been inflated, and falls suddenly to the alighting board of the hive. If the landing place is narrow and elevated, and it misses reaching it, the bee will be sure to fall helplessly to the ground, and can only rise again by inflating its body. Bees with larger bodies than our honey-bee, the large bumble-bees have at the base of the abdomen, in addition to the ordinary air-vessels, two large sacs, called *air vesicles*, which are supposed to be used alone for inflation in flying, and some other insects have in the heavier parts of their bodies similar sacs.

For the American Bee Journal.

Italian Bees.—Their Worthlessness.

We give below, an extract from the discussion that took place at the meeting of the Bee-keepers' Association, of Ober Hess, in July last, by which it will be seen that there are some in Germany as well as this country, who have no faith in the Italian race of Bees.

The question before the Association for discussion was: What practical results have thus far been obtained by the introduction of the Heath bee as compared with that of the other imported races—Carnolian and Italian?

Herr Dorr, of Mettenheim, said: Gents, Since 1857 I have interested myself in imported races of bees, especially the Italian. I was their warm defender, and protected and guarded them as pet children, and thus became possessed of fine, pure colonies, and also some crosses in the first and second degree. But when I seek to find out what has been the practical result from 1857 to the present, what return I have had for my trouble, outlay of money, etc., in the introduction of different races of bees, I am forced to acknowledge that all the foreign races combined are not worth an iota. I will not include the list by foul-brood which was introduced into my apiary through these importations.

I, for my part lost 500 guilders through the foul brood introduced by the Italians, and on these grounds I warn all my Association friends. I must hence decidedly oppose any further importations.

Inestimable damage has been done to our neighborhood by the introduction of the Italian race. I could mention whole apiaries, containing upwards of forty stocks of movable comb hives, that were Italianized and have gone to total ruin. In 1868 I owned 100 movable comb hives; three fourths of which had pure Italian queens, and the other fourth were half-breeds. From that time on I began to Germanize my stocks, and from 100 have come down to 40 Italian stocks; and so perhaps it may be with other members of the Association. I could show you with statistics how great the loss has been to our Association alone. You would be amazed, and from this basis advise against every introduction of foreign races.

The Heath bee does not suit us, because it swarms too much, when it should be gathering honey. I have in my immediate neighborhood, a beginner, a man of good judgment, who, persuaded by the praises of Gravenhorst, procured 22 stocks of heather-bees. These cost, when they reached Alshiem, somewhat over 500 guilders. He built a house. To-day they are standing there without a half ounce of honey; they swarmed, however, in abundance. Thus are failures produced, and upon these grounds I hold it to be my duty to so work, that our Associations will take this matter decisively in hand.

Since 1868 I would not endure any Italian blood in my apiary. I have half-breeds who do very well. Last year I allowed myself to be again persuaded and engaged 4 very choice queens, and this spring three of them were proved to have foul brood. The entire stands were destroyed. This again cost me a fine sum of money. It would be far otherwise, if we would more closely watch our native bees, and from year to year note what stock distinguishes itself beyond the others, and make these the standards from which to rear our queens,and I believe we would improve our race of bees without costing us so much money.

President. It might, perhaps, be interesting should Mr. Dorr explain how the foul brood got into his hives, whether it was imported with the Italian bees, or whether from a peculiar character of the Italian bee, which would in our climate produce foul brood.

Herr Dorr. From 1857 to 1863, as Secretary of this Association, I received from Dzierzon Italian Queens. The Association of the Palaterate received from me Queens. Yet not in one instance did foul brood appear. In 1863 after the meeting at Hanover occurred the discussion as to the difference between the queens raised by Dzierzon, and those imported.

In the spring of 1863 I received my first queens from Mora, and the following Fall foul brood made its appearance. At the time I ascribed the appearance of foul brood to a peculiar circumstance. A friend of mine had some Italian queens in a triple hive. He desired me to put it in order. I agreed to do it, and had the hives brought to my apiary. I then purchased some honey from the honey dealers, for feeding, and I believed that the foul brood was caused by this honey. But it so happened that others, who in 1863 and 1864 received queens were as unfortunate as myself. Last year I tried some from Uhle, but with the same result—foul brood.

Prof. Baest. At what time did foul brood appear most abundant?

Mr. Dorr. I have not yet concluded. From the hundred, yes, hundreds of queens, I have certain information of, I am convinced that the queens reared in May, June, and July are not foul-broody; while on the other hand, those raised in the Autumn months, and those raised in Canton Tessin and sent out by the farmers, are nine-tenths of them foul-broody. Of the former, hardly one fourth show themselves foul-broody. Hence let the importing of strange races of bees alone. If we had spent for the aid of natural bee-keeping in the Grand Dutchy of Hesse, the amount of money expended for importing foreign bees, bee-keeping here would be in a very different stage.

President. Judging from the remarks of Mr. Dorr, it appears that foul brood is imported with the Italians, and not a peculiarity of that race.

Mr. Dorr. I have one more remark to make. I have, for example, often in Fall, in order to quickly accomplish my work, smoked the bees with a puff-ball, and in the evening I opened the hive and placed

all the combs over the stultified bees. This Fall I watched the operation carefully. Every swarm so treated became foul-broody. I do not know of a single exception, which I could say did not become foul-broody.

Did I cage the queen, foul brood did not make its appearance so readily. On a former occasion in order to introduce foreign queens, I stupified them with the smoke of a puff-ball, the most of them became foul broody. To another I gave a queen, and it also became foul-broody. I yesterday destroyed it, bees and hive. I can knowingly tell you of two incidents, where a queen was taken from a hive infected with foul-brood and put in a queen-cage, so that not a particle of foul-brood was present, and yet after a time it made its appearance. Dzierzon himself is unable to explain this.

Mr. Secretary Gros von Arnsburg. It appears to me that Mr. Dorr admits that Italian queens reared in the months of May, June, and July are free from foul brood, while those reared in September produce foul brood. Why not rear our queens in those months?

President. That is a very natural inference, but we must remember that queens reared in the Fall months are much cheaper, so that the largest number are sold at that period, while those sold in Spring cost double, yes, three times as much.

Mr. Gross. But sooner than obtain foul brood, I would willingly pay a larger sum of money.

President. What you say is very rational, but one comes in conflict with his purse. I think this question has been sufficiently discussed. Should I in a few words give you my practical experience, it would be, that crosses obtained by the union of a pure Italian queen with a common drone, or a queen of the Heath bees impregnated by an Italian drone, are the best bees I have in my apiary, and I invite all who wish to be convinced of this to visit my apiary. . . . . We have been too long breeding in and in, and this phlegmatic German blood needs quickening. This is just what is done in improving our breeds of cattle, and why should we not adopt the same measures with our bees? I cannot entirely agree with Mr. Dorr.

Pastor Weber. Mr. Dorr told us that he began Italianizing in 1857. He has been breeding queens, then, for 10 years, and only lately has he become satisfied with his bees—and now they are all crosses. If one procures queens in 100 or 1000 different ways, there will be no more of the pure German race. In Rheinish Hesse this freshening of the blood has been carried on to a great extent. There is, there, no pure race, but everywhere are traces of foreign blood.

For the American Bee Journal.

The North American Bee Keepers' Association.

The Third Annual Session of this Association was held in the city of Louisville during the first week in December.

In the absence of the President, Vice President Hamlin, of Tennessee, took the chair and called the meeting to order, Gen. Adair acting as Secretary.

Owing to the inclement weather, and the sickness of some of the members, the attendance was not so large as could be wished, but the sessions were full of interest. The first morning was devoted to an informal meeting, and the afternoon to a free social conference. Letters were read from absent members. Several practical questions were discussed: viz., The size of brood laid by a prolific queen; The cause of foul brood; Why queens sometimes desert the hive, etc.

The propriety of clipping the wings of queens was talked over at length, disclosing quite a difference of opinion on this subject. The proper kind of food for bees was also discussed, after which the meeting adjourned until 7 P. M.

In the evening the respective value of the various honey plants was considered, and the Alsike clover was highly recommended.

The subject of introducing queens was also discussed, and the propriety of extracting honey freely commented upon. The members were largely in favor of extracted honey, as it leaves the comb intact, and ready to be refilled at once with honey, thereby saving to the bees more than half their labor. It is also claimed that it is better for the table, having been prepared for assimilation by the stock. It is asserted that the only thing which renders

honey injurious to invalids, is the indigestible *comb* that is taken with it.

MORNING SESSION.

The Convention met at half-past 9 o'clock this morning Mr. Hamlin in the chair.

General Adair stated that it was proposed to hold a Centennial Exposition in Philadelphia, and moved that a committee of three be appointed to correspond with the managers, and see what arrangements could be made for having the bee interests represented. The resolution was adopted, and subsequently the chair appointed a committee, and authorized them to appoint sub-committees in such states as they should deem proper.

The Society then proceeded to the

ELECTION OF OFFICERS.

Seth Hoagland, of Pennsylvania, and Dr. F. B. Hamlin, of Tennessee, were placed in nomination for President, and a ballot was taken, resulting in the election of Mr. Hoagland by one majority.

For Recording Secretary, Abner Pope, and for Corresponding Secretary, General Adair, were elected without opposition, as was also J. S. Hill, of Mt. Healthy, O., as Treasurer.

The following Vice-Presidents were then elected:

New York—J. E. Hetherington, Cherry Valley.

Pennsylvania—A. J. Hooker.

Kansas—L. J. Dallas, Baldwin City.

Michigan—A. J. Cook, Lansing.

Minnesota—J. W. Hosmer, Janesville.

Utah—W. D. Roberts, Provo City.

New Jersey—E. J. Peck, Linded.

Wisconsin—A. H. Hart, Appleton.

District of Columbia—Hugh Cameron, Washington.

Ontario—J. C. Thorn, Garafraxa.

Georgia—R. Peters, Atlanta.

Texas—J. W. Dunn, Corpus Christi,

Arkansas—G. B. Peters, Council Bend.

Maine—Mrs. A. C. Hatch, Houston.

Connecticut—W. H. Kirk, West Cheshire.

Louisiana—T. J. Bert, Mansfield.

Alabama—Miss Fanny L. Morris, Shelby Springs.

Massachusetts—E. N. Dyer, Amherst.

West Virginia—A. Chapman, New Cumberland.

Nebraska—W. Young, Plattsmouth.

Tennessee—T. B. Hamlin, Edgefield Junction.

Florida—Mrs. C. Atkinson, Leesburg.

Ohio—Aaron Benedict, Bennington.

Kentucky—Major T. J. Key, Anchorage.

Indiana—A. T. Wright, Kokoma.

Illinois—J. L. Lucas, Peoria.

Iowa—Mrs. E. S. Tupper, Des Moines.

Colorado—T. J. Dorr, Colorado Springs.

The subject of wintering bees was then discussed; The moth and its troubles were also talked over, but it was claimed that with good hives and Italian bees, there was no danger to be apprehended from this quarter. Adjourned until 2 P. M.

AFTERNOON SESSION.

An interesting letter was read from the former Secretary, Mr. King, after which remedies for stings were considered. Colp water and wet cloths changed as often as necessary, or the compound tincture of Lobelia, were pronounced very effectual remedies. Mr Winder, however recommended sulphate of zinc dissolved in water, and Mr. Murray, supercarbonate of soda, used in the same way as an outward application.

The Corresponding Secretary then read a letter from Dr. Phillips, which was placed on file. On a motion the Doctor was elected as an honorary member of the Society.

The following resolutions were adopted:

RESOLVED, That the thanks of this society be tendered the city of Louisville for kindness and hospitality shown to the Association at this time.

RESOLVED, That the Treasurer pay to D. L. Adair, Corresponding Secretary, $6, amount expended by him for envelopes and postage in distributing the proceedings of last year's transactions, out of the first funds in the treasury not otherwise appropriated.

RESOLVED, That the thanks of this society be tendered to the Louisville COURIER-JOURNAL, COMMERCIAL, and LEDGER, for their correct report of our proceedings.

RESOLVED, That the thanks of this society be tendered to the trustees of the Public Library Hall, for their fine hall and their kind attention to us, and the Treasurer pay to the same, $32 for the two days' use of their hall, if the Treasurer cannot get it for reduced rates.

WHEREAS, We have not funds in Treasury to meet current expenses:

RESOLVED, That each member present pay one dollar additional, which shall be credited to them as one year's payment in advance as members of this society.

RESOLVED, That our Corresponding Secretary be allowed $10 for making out the transactions of this meeting, out of any fund not appropriated otherwise; $5.00 also appropriated for Dr. Hamlin, money spent for postage, &c., in arranging for this meeting.

RESOLVED, That as Mrs. E. S. Tupper is the only publisher who is here, the society request her to prepare a synopsis of the reports of this meeting and publish them in the December number of the NATIONAL BEE JOURNAL, and send a copy to each member who has paid the annual fee, and also to other Bee publications and agricultural journals, and that the Secretary make an official report in pamphlet form as soon as he has funds to do it and that the Secretary be paid a reasonable sum for performing the above services.

The question was asked, "Is artificial swarming as good or better than natural

swarming?" Adair moved that the Society answer the question in the affirmative, and gave substantial reasons therefor.

An able paper was then read on the wings of the bee, which will be found entire in the present number of the JOURNAL.

The meeting then adjourned to meet at Pittsburg, Pa., the second Wednesday in November, 1874.

For the American Bee Journal

Doolittle's Article.

DEAR JOURNAL: In the July number, page 7, we gave you under the above heading our experience with bees up to April 28th. We propose now to let the readers of the JOURNAL know what we have done since; and by the way, Mr. Editor, if more of your contributors would give their practical experience with bees instead of disputing so much with each other, and about hives, we think it would be of more benefit to beginners as well as more edifying to experienced bee-keepers. The cold weatner which began April 17th, continued until May 1st, and upon examining we found that our bees had decreased one-half in number to each hive. We united the weakest swarms so that we had but twenty-nine to begin the season with, one of which lost its queen shortly after. On May 1st, we did not have a hive that contained a quart of bees, and not a hive that had ten square inches of brood. The majority of them occupied from two to four ranges of comb and had no brood at all. The first pollen gathered was on April 30th, which was very small pillets indeed, and that from skunk's cabbage. Bees began to rear brood again May 2nd, and raised sparingly until May 14th, when it became cold again and remained so until the 20th, at which time the larvæ was all destroyed again. May 21st, the hard maple threw out its thousands of blossoms and the bees, what were left of them, began in earnest to prepare for the summer; before that time we had spread the brood twice a week by putting empty frames or frames of honey in the center, and on the 30th, we never had so much brood according to the number of bees in our hives, five hundred bees covering five thousand of brood easily, and from the 12th to the 18th of June we had multiplied their number by ten and were once more in a very prosperous condition. June 15, white and red clover began to bloom, and that with locust blossoms furnished our bees with an abundant supply of honey. June, 19. our first swarm came, Basswood commenced blossoming July 16 and lasted until August 2nd, which was the end of the honey season with us. We have at the present time fifty-four colonies in good condition for wintering, and four nuclei, so it will be seen that we have doubled our number counting the nuclei. We have sold surplus honey to the amount of 2350 pounds, 635 pounds of which was extracted and which we sold for fourteen cents per pound, the remainder was in two pound boxes which brought us twenty-seven cents per pound. On the whole we are satisfied with our season's work. We propose wintering the same as last year with the exception that we shall leave the straw out of our safes until spring for the reason that our bees were kept too warm during the winter. Keep hives banked with snow out of sight, and have all lower ventilation nearly or entirely closed with one of Novice's quilts over the frames, well tucked down at the sides, and we will bid adieu to cellar wintering, as we believe bees can be wintered in no better way. No lugging or lifting nor any mixing in the spring, but just a little pleasant exercise of sweeping the snow as it falls around the hives, and if it should come warm enough for them to fly, shovel it away in front and what a nice fly they will have. If it does not come quite warm enough they will keep quiet, as the snow keeps them at an even temperature, so there is no loss of bees from getting chilled in the snow every time the mercury rises to forty in the shade.

G. M. DOOLITTLE.

Boradino, N. Y., Dec. 6, 1873.

Italian bees are said to guard their hives against the moth-miller much better than the common black bees, and for this reason their combs are seldom injured by the moth.

The Alsike clover is equal if not superior to buckwheat as a honey plant, while the honey produced from it is fully equal to that made from white clover.

Do Bees Make Honey?

Do the bees simply gather the juice or secretion of the flowers and deposit it in the hive unchanged, does it undergo a change in their stomach, or is honey a secretion of the bees resembling that of milk in mammals?

This question was asked me lately by a reader of the *Dollar Monthly*. With your permission I will describe my views on this question, subject to the criticism of older heads.

When the bee visits the flowers it sucks the nectar with its proboscis and swallows it. The honey passes into what entomologists call the proventriculas, or first stomach, commonly called "honey sac." If a part of this honey is needed for the nourishment of the insect, it passes into the ventriculus, or true stomach, in which it is digested. When the honey-sac is full the bee returns to the hive, unloads himself by throwing the honey into the cells and again starts for the field. It is, therefore, quite plain that honey is not a secretion. Now, is honey changed in any way by passing in and out of the honey-sac of the bee? That is the question.

It has been found by chemical analysis that the nectar of the flowers is cane sugar and that the honey harvested by the bees from those flowers is grape sugar. This discovery would be sufficient to prove that the honey gathered by the bees undergoes a certain change in the honey-sac. On the othor hand, W. W. Stoddard said, in a back number of U. B. J., that the honey when in the honey-sac comes in contact with an acid, that proved to be identical with formic acid. He says: "This it is which doubtless causes the peculiar tingling sensation at the back of the throat when much honey has been swallowed."

Later we find in the Apicultore of Milan a definite account of the existence of secreting glands communicating with honey sac, and containing a saliva of a strong, peculiar odor that passes by means of contraction into the honey-sac.

These three glands were discovered by Prof. Von Siebold, the well known German entomologist. He claims the honor of having described them the first, as they had always been thought by others to be respiratory organs.

If the above discoveries are real and well understood, we shall have to conclude that honey does undergo a certain change in the stomach of the bee, and, therefore, cannot be made artificially. It does not exist in a natural state outside of the hive.

The change effected in the nectar of flowers by the stomach of the bee is not very great, however. The bee gives it a peculiar taste, but it cannot add anything to its quality or diminish it in any way.

Before I close, permit me to thank Mr. M. Quinby for his article on wintering, in the December number. I also wish to tell friend Kretchner that we agree perfectly together. Bees will not work as well in side boxes as in top boxes, although they *will* work in side boxes if they have no top boxes. But give them their choice and see what they will do.

D. P. Dadant.

Hamilton, Ill., Dec. 15, 1873.

Shaking Bees.

James Heddon at the Michigan Bee Keepers' Meeting, said, "I find that shaking deep combs to get off the bees, irritates them. Is there a remedy?"

There are several, a couple of which I will give. First, Use more care in subduing bees in long, deep, or large hives. It is generally best to manage hives of bees, extracting honey, making swarms, &c. during a yield of honey, and before it is sealed with wax, that all the bees may fill their sacs with honey; which they will do, if there is enough uncapped, and they are disturbed properly. If the honey is not in a condition, or of sufficient quantity, food may be given, to subdue the most vicious stock. The best brush is one or more grape or plantain leaves rolled loosely, sometimes the end trimmed. Weeds, grass, broom, feathers, or brushes may be used; and if the articles are scarce, or only one at hand, dip occasionally in water to wash off the odor which enrages badly managed bees.

Second, Use the old fashioned, native, or black bees with your deep frames, that drop off the comb like shot off a shingle, at the least handling. The stock is getting scarce. It can probably be obtained of our former President, as they are his pets.

St. Charles, Ill. J. M. Marvin.

American Bee Journal.

CHICAGO, ILL., JANUARY, 1874.

Business Notice.

The public are hereby informed that the proprietorship and management of the AMERICAN BEE JOURNAL have been transferred to the American Publishing Company, of Chicago, the undersigned retaining henceforward only an editorial connection therewith. By this arrangement additional security is given for the permanence, effective conduct and progressive improvement of this journal, inasmuch as the company into whose hands it has passed possess unusual facilities for carrying it on. They are already publishing *The Illustrated Journal*, with which has recently been incorporated *The Chicago Graphic* and *Illustrated American*, the announcement of which will be found in the advertising department of this number. They are also issuing other works of art. Having a corps of engravers connected with their establishment, they will be able from time to time to illustrate the pages of the JOURNAL, a desideratum long felt by its proprietors and friends. The new publishers are determined to spare neither cost nor pains in making this periodical worthy of the patronage of the bee-keepers of North America. The experience of a year in the business and editorial conduct of the AMERICAN BEE JOURNAL has convinced the undersigned that the apiculturists of this country need and are prepared to sustain a well-managed organ and exponent of their important industry. It has also convinced him that in order to the complete success of the JOURNAL, it is absolutely necessary that more capital, business ability and energy should be connected with it. These are now secured, and the new arrangement is announced in the fullest confidence that the results will be most satisfactory to all concerned.

W. F. CLARKE.

The Outlook for Bee-keeping.

Bee-keeping has come to take a high rank among the productive industries of the world. For want of statistics, which have never yet been faithfully collected, and which it is very difficult to get with any accuracy, only general terms can be employed in speaking of its condition and progress. A national census throws but little light on this subject, for census commissioners do not usually enquire about live-stock so insignificant as bees, and what information they get is drawn out of the people by questions. They have a printed catechism, which does not embrace the inquiries, "Any hives of bees?" "How many?" and hence the most profitable kind of live-stock in proportion to cost and value, finds no place in the record. Very much the same is true of the honey product of this and other countries. It is very imperfectly represented by figures, and is only found in commercial reports that are devoted to market prices. We are consequently quite in the dark as to the important items of consumption and demand.

But amid all this vagueness of knowledge about apiculture and honey, there are some things that stand out distinctly enough. One is the universality and abundance of honey. Everywhere in innermost hearts of myriad flowers, the Creator has garnered up stores of liquid sweet, which wait for collection and appropriation. Another thing we are perfectly sure of, viz., that this teeming and superabundant sweetness can only be made available through the good offices of the bee.

Whether the floral sweet is really honey as it lies treasured in the flower, or whether it undergoes a chemical change in the body of the bee, whereby common saccharine matter is transformed into honey, we need not now stop to enquire; but it is absolutely certain that if man is to have honey, the bee must collect and store it for him. Every schoolboy knows how to get at the drop of sweetness that lies hid in a head of red

clover, but there is no way of doing it on a large scale except by bringing the "little busy bee" into our service. We know, moreover, that the proportion of honey actually gathered and made available for human use, is very small compared with what might be got, if there were gatherers enough to do it. Further, it is quite certain, that there is no danger of the market being glutted with honey. It has never been abundant enough to cause a decline in the price, except as there has been doubt as to genuineness of quality. The best box honey never goes begging for purchasers, and the same would be true of extracted honey, but for a prejudice growing out of doubt as to its purity. Finally, we know that bee-keeping, though subject to fluctuation is no more so than most other sublunary things. Even the wheat crop sometimes fails, or when it does not fail, the demand slackens, and the price is low. In every line of business there is more or less of uncertainty, risk, and liability to sustain loss. This is no more true of bee-keeping than of other pursuits, and, therefore, it may fairly take rank among the safe and regular occupations of mankind.

So much being settled in regard to the present condition of bee-keeping, let us glance at its future. It is now reduced to a science, which, though in its infancy, has its main principles ascertained and fixed. It is also an art, whose essential manipulations have been reduced to a system. Only those will succeed in it who master the principles of the science, and learn the *modus operandi* of the art. It is passing out of the hands of unscientific and unskilled people, who are convinced that it is an unprofitable business, and better hands are taking hold of it. Our best bee-keepers make apiculture pay, and some of them are quickly amassing snug little fortunes out of the industry of the bee. As a higher class of bee-keepers get possession of the field, and apiculture acquires its true status among the industries of the world, many will be attracted to the pursuit, who, instead of rushing into it with ignorance and ardor as their only qualifications will first lay the foundation of success by thoroughly learning their business. We look for the springing up of a new generation of advanced bee-keepers—bee-keepers who will be free from prejudice against book-learning about rural matters, and who will believe in movable-comb hives, Italian bees, and honey extractors. The disasters of the last two years, which have fallen most heavily upon the ignorant class of bee-keepers, have had the effect of discouraging these, and leaving only those in the field of apiculture, who have science enough to account for failure, and faith enough to try again, and keep trying until they achieve success.

We believe, too, that the age of empiricism in bee-keeping is passing away. Impostures feed and live on ignorance. Worthless patents and clap-trap appendages, are thrown away so soon as the noviciate of bee-keeping is passed. What apiarian of any experience has not plenty of old lumber in the shape of abandoned hives and rejected "fixings?" We know now that with the movable frame, air-space, and the requisite room, bees will store honey in any sort of receptacle, and that the bee-keeper may suit his own taste and convenience in the matter of hives. Moth-traps, non-swarmers, and the endless little variations about frames and hives which have been made excuses for getting patents, are fast coming to be estimated at their real worthlessness.

An eager demand for trustworthy information and teaching on this subject, will manifest itself on every hand, and we shall soon have a race of studious, pains-taking, successful bee-keepers, whose influence will allure multitudes to this fascinating pursuit, and these in their turn will draw others into the apicultural ranks.

So important and growing an interest must have due representation in the press,

and will find it in such apiarian periodicals as make it their aim to advance apiculture, irrespective of all merely selfish interests. At the head of all these stands the AMERICAN BEE JOURNAL, and therefore all the auguries of success for intelligent bee-keeping are omens of prosperity for it. In this confidence it was removed to this city a year ago, and during a season of depression among bee-keepers, pushed with all the energy circumstances admitted. In this confidence, it is now laid hold of by the AMERICAN PUBLISHING CO., under whose auspices it enters on the year 1874 with every prospect of a growing circulation, and widening usefulness.

Knowing, as we do so well, the firm faith our most intelligent bee-keepers have in their business, and the high esteem in which they hold the AMERICAN BEE JOURNAL as the best exponent and organ of their special interests, we count most confidently on their continued co-operation. Their success is ours, and our success is theirs. In this community of interests and fellowship of labour for the general good, they have our best wishes, and we are certain that we have theirs. As we work on dilligently and hopefully, do we not hear merry voices ringing out the cheering refrain:

"There's a good time coming, boys,
Wait a little longer."

Hints to Correspondents.

Perhaps there is no way in which the science of bee-keeping can be better advanced than by comparing the experience of *practical men*. One *fact* is worth a dozen theories. Therefore we are grateful to our friends for giving their thoughts and the result of their efforts to the JOURNAL. But it must be borne in mind that our space is not equal to our good wishes in this matter, therefore it will be necessary for our friends to *condense* their thoughts as much as possible. Try and give us the "concentrated extract" of your experience in Bee Culture. We will publish nearly all if possible, but if we have to cut and prune sometimes a little closely, please bear in mind that our space can only be filled, therefore we are sometimes obliged to publish only extracts, instead of whole letters. Another thing we would suggest is, that our correspondents avoid as far as possible, *all personalities*. These are hardly calculated to produce harmonious feelings in our families, and certainly not essential to the science of Apiculture.

Annual Meeting of the North American Bee-Keepers' Society.

Elsewhere in this number will be found a report of the above meeting, held at Louisville, Ky. The editor of this journal fully intended to have been present, alike in the interest of the JOURNAL and in the discharge of his duty as President of the Society. His intention was frustrated by the death of his father-in-law. The sad event took place too near the time of the meeting to arrange for the attendance of any other representative of the JOURNAL. It is hoped, however, that the report of the proceedings will be found accurate and satisfactory, and that this explanation of his non-attendance will be accepted by all concerned.

To Those Interested in Bee Culture.

At the sixth annual convention of the Michigan Bee-Keepers' Association, it was decided to hold a special meeting at Kalamazoo, to commence Wednesday, May 6th, 1874. It is especially desired that all members be present, and, in behalf of the Association, we urge every bee-keeper in Michigan to attend. A cordial invitation is also extended to all persons interested in the science of bee-culture, whether residing in this or other States. Surely much good may be derived from a comparison of experiences next Spring, and from the able papers that will then be presented. Timely notice will be given of all further arrangements. Address communications or inquiries concerning the subject to FRANK BENTON,
Sec'y Mich. Bee-Keepers' Association.
Shelby, Oceana Co., Mich.

"Instead of complaining that the rose has thorns, I congratulate myself that the thorn is surmounted by roses."

Sundry Items.

INTRODUCING QUEENS.—Having more experience in introducing queens as recommended by me in October JOURNAL, I would advise not to release *late* in the season, especially in cool weather.

PACKING HIVES FOR WINTER. — I have packed some hives to winter on summer stands, as follows: Of stuff inch wide by quarter inch thick, I cut off lengths so as to make frame, four pieces for a frame, the outside dimensions of which are same as the side walls and top of brood chamber. These skeletons were covered with coffee sacking, and when ready to pack, I removed the wooden sidewalls and top of brood chamber altogether, replacing with those just described, and then filled in all around and on top with straw. I am confident this will avoid all moisture, and be much warmer—the two most essential points to be gained, for successful out door wintering.

Now if any who chance to read these lines, have bees in single walls to winter on summer stands, having done *nothing* by way of protection, I would say, Try a few hives as follows: Make a frame and cover it with sacking as above described, that will fit snugly inside of cap, fill cap with straw and press the frame down upon it, having put the side to which the sacking is fastened to frame next to the straw. Remove the honey-board, and replace the cap on hive. Now set the hive one side, and place on the stand a dry goods box, several inches larger all round than the hive, with the open side facing the same way as the front of the hive. Fill in the back side of the box with straw, and set the hive in the box, and fill in both sides with straw. If your bees dont come out in Spring in better condition, *on less honey consumed*, tell us all about it in the JOURNAL.

This brings us to consider Novice's allusion to us in November JOURNAL, on "Out-door wintering," in regard to which he has heretofore expressed himself, as follows: "We should give them no protection whatever, unless it be from the wind; but should endeavour to have them receive all the *sun* possible." One of Novice's correspondents writes, "that in this climate, out door, without protection is very unsafe," to which Novice adds, "We have been obliged to come to the same conclusion in regard to out-door wintering." What conclusion, Novice? Why, that out-door wintering, *without protection*, is very unsafe. That is plain enough without "pursuing our reading any farther," as we do not think the statement about the sunshine alters the meaning of the above at all.

In giving our views we have always confined ourself to the subject in hand, viz., "Wintering on Summer Stand," and not as Novice generally does, shift it to "Wintering in Special Depositories."

In the report of the Kansas State Bee-keepers' Association, we find the following assertions by Mr. Meador: In speaking of the queen he says, "After impregnation *all* the eggs produce females, and that the male bees were *generally* produced by eggs from the *worker* bee, fed for the purpose."

That we have fertile "workers," I suppose every queen breeder has found out to his detriment; but the above assertions in regard to the same are at variance with all our reading or experience. I for one, and methinks a whole brigade of JOURNAL readers join in, would like his "proofs for the faith that is in him."

I removed a queen from a hive in May, from which drones were flying, and as I wanted drones from the queen that succeeded the one removed, I placed drone comb in the middle of the hive, which was filled with eggs, and cells sealed long before any worker progeny of the new queen hatched. So if that drone comb was filled with eggs by a fertile worker, it must have been one bred from the *old* queen, consequently there could be no *variation* in drones hatching from that brood, and those in the hive when the old queen was removed. There was, however a *great* difference in the markings, showing a different strain altogether.

J. E. MOORE.

Rochester, Pa., Nov. 28, 1873.

"Moon's Bee World," is the name of a new periodical published at Rome, Ga.—We wish the new magazine all success and may the South soon become "a land flowing with milk and honey."

Fruit may be preserved with honey by putting the fruit first in the can, then pouring honey over it, and seal air tight; when the honey is poured from the fruit it will have the flavor and appearance of jelly, making a delicious dessert.

For the American Bee Journal.

A New Repository for Bees.

Mr. Editor: Of the great number who suffered from the loss of bees last Winter I am one. I lost all I had, forty-two stocks, leaving a large amount of honey. And now after sifting the matter down to a fine thing, I have concluded the cause was in a measure carelessness, in not protecting the bees and giving them sufficient ventilation. The Winter set in about Nov. 12th, 1872, and continued until about the last of March, 1873, too cold all that time for bees to be out, except one or two days in February, then but few made their appearance. The consequence was that the frost accumulated in the hive, and then a moderate day would come to melt the frost and make it run down over the combs and thin the honey, which caused dysentery. Nearly all in this section lost all the bees they had; the disease paid no respect to the pattern of hive but entered all alike.

Last Spring I procured two very weak stocks of black bees from a neighbor, the best that I could do here. I also procured a medium stock (five frames) of Italians from W. J. Davis, of Youngsville, Pa; this stock contained a beautiful queen, and as prolific a queen as I ever saw. In order to make a cross I procured a very beautiful queen from Mr. D. A. Pike, of Smithsburg, Md., and introduced her into one of the black stocks, then after a sufficient length of time formed nucleus, raised queens, which mated with Mr. Davis' stock of drones. No drone brood was allowed to hatch in the black stocks for six weeks after the Italian queens were introduced. I have increased to eleven good stocks with abundant stores for a long Winter, and the nicest, most robust and the best workers that I ever saw. The loss of last Winter is a dear lesson to most bee-keepers—it has proved so to me at least.

I have built a repository, which I think is complete, as follows: I selected a dry spot which slopes a little to the north, then graded it to the south twelve feet, and ten feet the other way; then set two posts at north end, wide enough apart for a door, then four feet south two other posts, same distance apart, and eight feet farther south two posts, same distance, then pinned perlines on top of the posts, same as a barn, put stays across the top to keep the posts from leaning in toward each other, posts four feet high from the floor; then set up two-inch plank of sufficient length to meet at the top, same as rafters, with one end on the ground, thus making a roof eight feet wide; then planking up the ends, all but the door four feet high and thirty inches wide, then planked up the remaining four feet perpendicular and out to the first two posts, then horizontal over the top, and then covered the whole over with dirt from twelve to fifteen inches deep, leaving another door at the north end, forming a hall, can open the first door, pass in and shut it, and open the next, this lets no light in nor sudden change of air. Have ventilated at the bottom with two inch pipe and at the top with six inch stove-pipe; put a roof of boards above the dirt, and kept a stove and fire in it about four weeks before putting in the bees. Have only the out-side door shut, it is warm enough up to this date. The bees are perfectly quiet with all the holes open in the honey-board. They were put in on the 13th of November. The weather has not been warm enough to fly since had they been out.

M. Wilson.

Meredith, Pa., Nov. 28, 1873.

Hints to Ladies.

Much has been said and done in relation to "Woman's Rights," but amid all the speeches, conventions and resolutions of the last few years, the most successful women have been those who have quietly gone to work, winning their own way to prosperity.

All the conventions this side of the garden of Eden will not help woman into a position of comparative independence unless she tries to help herself. Rosa Bonheur did not ask Congress to make her an artist—nature gave her the ability and she wrought out her own problems with patience and earnestness.

Harriet Hosmer sought no aid from conventions and by-laws when she began her life work, and Florence Nightingale did not care to vote before she went into the Crimea. But all women are not artists or sculptors. Their gifts vary as much as those of the other sex, and indeed like many of them, some of us seem to have received none at all, that is no bright particular talent, which, if cultivated, will bring wealth and fame.

To hundreds and thousands of brave hearted women the serious question comes home "What can we do for a living." The endless round of domestic labor brings little or no reward, while the ranks of teachers and seamstresses are filled to overflowing. There are clerkships to be sure, and many of them are ably filled by ladies; but side by side with them, are stalwart men who *weary* themselves with handling ribbons and laces, while the soil waits for tilling and the harvest for reapers. In many departments of life man gets sadly "out of his sphere" by intruding upon women's legitimate domain. But we cannot straighten the world's machinery, though it sometimes gets badly out of gear, neither can we force the drones into their proper places. It therefore behooves us to find fields of labor where there is room enough and to spare, and perhaps the most tempting of these is the science of *Apiculture*.

Woman is particularly fitted for the handling of bees. Her perceptions are quick, her touch is delicate and her instincts are seldom at fault. Many of us can find time amid domestic cares to cultivate a few flowers and we do not feel that the time thus spent is wasted, even though it brings no financial reward. But the care of a few colonies of bees would require no more time than the same number of flower beds and the pursuit is even more fascinating; there is more pleasure in seeing the little workers build without a compass their geometrical cells than in watching the unfoldings of bud and blossom. The work is lighter and cleaner than Horticulture, besides yielding substantial returns. And however happily a woman may be situated in life there is a pleasure and independence derived from the use of money which she has *earned* that can be found in no other way. Then if she wishes to make her husband a holiday present, she can do so without feeling that it came from his own pocket. Many a worn out teacher and tired house-wife may find among their bees rest, health and a new interest in life. To women in feeble health bee-keeping offers many advantages. Let them be hers and let her take care of them, and she will feel an interest in the little creatures that can be awakened in no other way. Every pleasant day will find her more than once beside the hives, and the fresh air and glad sunshine with the aid of light employment will give her a strong hold upon life. It opens a new world in natural history which proves to be one of absorbing interest. It has been demonstrated that some of the most successful Apiarians in the country are ladies.

Says Mrs. E. S. Tupper: "In the summer of 1863 I had but two pure Italian stocks to commence with. One of these stored *one hundred and ten* pounds of honey besides giving three swarms. The other gave two swarms and stored ninety-six pounds of honey. All of the young swarms filled their hives and some of them stored honey in boxes. In the summer of 1864 I averaged from nine Italian colonies *one hundred and eighteen pounds each*."

A gentleman writes from Odell, Ill., that "Wife has managed the bees at home this summer. She had twelve swarms to start with, some of them very weak. Sold one hundred and thirty dollars worth of surplus bees and two hundred and fifty pounds of honey, which was doing pretty well, considering the *poor season* and the first attempt." Yet we will venture the assertion that this lady did not neglect her other duties or enjoy life any the less on account of the time spent in caring for her bees.

Ladies here is health, happiness and financial success for you. Do not say that you do not understand the business, that you cannot learn, that you are afraid of failures, &c. One year's subscription to the AMERICAN BEE JOURNAL will give you a whole volume of advice from the best practical Apiarians in the country. It requires but little capital to begin with, hence the risk is very small and success is almost certain. Try the experiment next summer, and let us hear of your success in the fall through the columns of the JOURNAL.

MRS. H. V. REED.

Central Iowa Bee-Keepers' Association.

The next annual meeting of the Central Iowa Bee-Keepers' Association will be held at Cedar Rapids, Iowa, Jan. 21, 1874, and hold two or three days. It is expected that the usual reductions will be made in railroad and hotel fare.

A. B. MASON, Sec'y,
Waterloo, Iowa.

A large natural swarm of bees carries with it four or five pounds of honey when leaving.

Translated for the American Bee Journal.

Early and Full-developed Queens.

Whoever has, even superficially, examined the internal arrangements of the hive, can see readily how differently the development of the stock takes place under varying circumstances. You may have seen a swarm fill in three days an ordinary sized hive, while it would take, with other swarms, three years to accomplish the same.

Hanneman tells us that in Brazil young swarms after one month send out new swarms, while under other circumstances such a young swarm would not think of swarming under a year. As with the development of the whole hive, so it is in resemblance, if not in proportion, with the development of each individual under various circumstances and at different periods of the year. How marked the difference, we may see in the varying lengths of the life of the worker bee at different periods of the year. Of those bred in April or May, not one will be living six weeks afterward; or at least very few; while those born shortly before lived to hoary old age. Those hatched in August or September, appear six months afterwards, in Spring, as young and active as though just one day old. Such is the effect of the constant and incessant labor during the Summer, and the protracted rest in Winter.

Should we observe the queen, the most perfectly developed of all the bees, upon whom depends the development, populousness and profitableness of the hive, we would see that her activity differs greatly at different portions of the year. Normally her activity with us ceases entirely during the last three months of the year. Only in swarms which breed a queen late in the season, or which are for a long time queenless do we find any brood in the fall and winter months, which is owing to the fact that the bees have a desire for it, owing to their long queenlessness: having on hand in their cells a store of brood-food.

This untimely breeding, especially if it extends into the Winter, works to their injury, and is as undesirable as the, in other hives, too early and extensive breeding in Spring for fear of the cold. Also towards the close of the honey harvest, an earlier shrinking of the quantities of brood would be advantageous.

On the other hand, in the early months immediately preceding the honey harvest, in April, May, and June, the bee keeper desires to stimulate breeding to the utmost, and prevent any possible interruption. The more brood the hive now possesses, the more workers it will have to gather the harvest. At the first start young swarms are very industrious, but this gradually diminishes, owing to inevitable loss of workers, without any supply being furnished until three weeks later when the young brood begins to hatch out, and renew the life of the swarm. From a strong colony we can gradually remove great masses of bees, without any injury to its strength, either as regards its flight or building capacity; but should the queen depart, either by natural or artificial swarming, or by any other means, all building will at once cease, and how sadly the swarm falls gradually behind hand in its working capacities, all bee keepers well know.

The brood supply will disappear in a few weeks, in which time several strong swarms might have been reared, and perhaps at the height of the honey harvest, the hive will be almost empty of bees and will have no surplus for its winter support, if it even lives that long. Here becomes apparent the advantages of the movable comb hives and a rational system of bee-keeping. Here these dangers of queenlessness are so diminished as to be rendered almost harmless. The swarm can be readily supplied with brood from time to time, and more readily supplied with queen. While in other hives, eleven to thirteen days will elapse before a young queen will be hatched out, I can now remove a laying queen, and usually in two days after have a young queen hatched, which in eight days will begin to lay. From April, as soon as drone-brood is to be seen, I seek constantly to have a supply of queen-cells on hand.

I utilize the queen as soon as hatched; generally, however, use the queen-cells just before the queens hatch. To remove a fertile queen, and introduce a young one, or insert a queen-cell, will often miscarry. One must adopt many maneuvers to reach his object. To an unqueened stock, in the meantime, I give a comb of brood from another stock or nucleus, upon which are found queen-cells some days old, and give

to these latter an already hatched queen, or a queen-cell. It is not to be feared that these latter will destroy the cells, especially if they are young and were given to the hive with the bees on them.

The swarm will at once protect the cells and commence to complete them, and will thereby be favorably inclined on the following day to accept an older queen-cell or perhaps a recently hatched queen, and the comb containing the cells may be given to another recently unqueened swarm.

By mixing the bees of two swarms, either by interchanging combs, or by shaking the bees from them, a swarm may be prepared for accepting a young queen. Also a stupefying of the bees, with the smoke of a puff-ball, perfumery, etc., serves well.

When one has not a surplus of young queens, it is well to confine them in a cage until the bees become acquainted with her.

This introduction, however, is only complete when the young queen becomes fertile, which is sometimes very slow. The impregnating of young queens depends much on the weather, since it requires bright, pleasant weather with a temperature of upwards 77° F. in the shade. Here the bee-keeper can aid somewhat, that the young queen may become earlier capable of being impregnated, earlier capable of making her wedding flight, and, consequently, earlier capable of laying. That young queens will make their wedding flight at a certain specific time, as Herr Collen claims to have discovered, is opposed by theory and practice. Fourteen days in March will not advance a queen as far as seven days in May.

The queen of an after swarm will be laying before the queen of another stock, of like age, will hardly be thinking of making her wedding trip, perhaps not yet ruler of the hive. There is very good ground for this. To attain the capability of being impregnated the internal organs must be more developed, which require the building up of the muscles and nitrogenous nourishment. Such food the bees alone prepare when in full, active life, when building and brooding is going on. It is true that in after swarms there is no breeding going on, but there is great activity in building, and for this purpose a higher temperature is maintained; this stimulates in the young queen an earlier development, earlier flight and earlier laying. In the mother stock, however, there is neither breeding nor building going on, no full active life rules the hive, hence the young queen remaining behind, in general, developes herself much more slowly. Many keepers of movable comb hives, or basket hives, cut away some portion of the comb near the entrance, in order by the filling of the vacancy, to test whether the hive was queenless or not. And by so doing they obtain, without thinking of it, an earlier impregnation of their queen, the increased activity in building bringing this about. In movable comb hives the activity of the bees is aroused and the development of the queen is hastened by placing in the hive a comb of young unsealed brood, or, if he does not wish to destroy fine empty combs, let him separate the combs and insert between them, near the fly hole, empty frames with simply foundations. Again, by feeding in the evening, and from time to time sprinkling with thinned honey, will the early and full development of the queen be not a little hastened. Yesterday, August 8, a hot, oppressive day, I entered my Apiary about three P. M. Hardly any bees were flying, since this one week of oppressive heat had parched all vegetation. Only the drones, where any were yet present, were hotly pursued. Their number becoming daily less, I sprinkled all my nuclei, containing young queens, with diluted honey. It was hardly a minute before I saw a young queen with her cluster of bees leave the hive; on opening the hive a quarter of an hour later, I found the plain signs of her copulation. Without the aid given by this sprinkling of thinned honey the queen would not have come out; and had the weather changed, days, yes weeks, might have elapsed before another favorable opportunity would have presented itself.

Moreover, the periods at which the impregnated queens begin to lay differ widely. Often in two days after copulation she has full laying powers, but with as thin a body as an unimpregnated queen. And then nothing is so stimulating as comb of young brood. The bees having then to prepare food for the brood, the queen will also be abundantly furnished with it, and thus begins to lay so much earlier. In this is also the advantage that in looking for the queen you will find her on the brood comb, and then one can readily see whether she is wanting in any particular.

DZIERZON.

Carlsmark, Aug. 9, 1873.

Voices from Among the Hives.

A. C. BALCH, Kalamazoo, Mich., writes:—I have put all my bees into the cellar for the winter, and have no fears of losing them, as I have no faith in dysentery or bad honey. I believe with Cromwell—'Put your faith in Providence and keep your powder dry.'—Have good hives, the tighter the better, and give very little ventilation. Put them in a good, warm, dark and dry cellar, with enough to eat, and they will come out all right; at least mine always have. I never give any top ventilation, and but small bottom, and thus have no circulation of air through the hive.

JOSEPH B. RAPP, Owensville, O., writes:—Some of us beginners would like to have communications from A. Grimm, M. Quinby, Capt. Hetherington and other Apiarians, describing in detail their methods of managing apiaries. From what little knowedge I have been able to pick up about bees, I think that Mr. Faulkners, of Vevay, Ind., has the best way of managing bees for profit. Colonies in this country are almost all weak in numbers, and will necessarily have to be protected to winter surely.

W. J. MCKEE, Cedar Falls, Iowa, writes:—I consider the JOURNAL indispensable to every bee-keeper.

A. GREY, Reiley, Ohio, writes:—What few bees were alive last Spring have done fine this season, both in honey and in increase of stock. I do not fear the dysentery this Winter, as the honey is of the best quality and the stocks are in good condition for Winter. Success to the JOURNAL and all of its readers.

W. M. KELLOGG, Oneida, Ills., writes of Bee-stings and "Novice," as follows:—"Friend Argus thinks the lips the worst place on which to have a loving bee salute a person. Just let him get a good deep one on the inside of the nostril, as I have had twice, and he will own up that he had rather try the kiss on the lips, or take one on the tip end of the nose ker slap, with the bee coming like a ball from a rifle. As for me, I had rather be excused from any of them. Friend Chapman, I agree with you in regard to the abuse heaped upon "Novice," and I too enter my protest against having any such articles appear in the JOURNAL. And as to his opposition to patent hives, I think if a little more of it were done, bee-keepers in general would be the gainers. I bought the Right ? of an Eastern hive, and it would have been a hundred dollars in my pocket had I never seen said hive; and now we all have the *right to* make as many of them as we *(don't)* want.

E. LISTON, Virgil City, Missouri, reports as follows: My bees are all in good order for wintering, and are on their summer stands. Winter is open and the bees fly every few days. In this section of the country bees made us no surplus the past season on account of dry weather, and I fear many black bees in old box hives will starve to death before bloom comes next Summer. Successful Apiarians in this section are very scarce, because they have not the energy, industry and care that the calling requires.

J. F. LOVE, Cornersville, Tenn., writes:—Our bees are in the very best condition possible for wintering, and this has been a good season for honey in this part of the State. I do not expect to lose a single stock; our bees can fly every ten or fifteen days through the Winter generally; we keep them on the summer stand. I saved every full stock and all nuclei last Winter on the summer stands and with no sign of disease of any kind.

DR. E. G. DECKER, Fort Fairfield, Maine, says:—Being an Apiarian, I do not know how to get along without the JOURNAL. Bees did well here the past season; my thirty hives paid me ten dollars apiece, besides increasing to seventy-five full stocks. My surplus was all boxes, price here, twenty cents, gross weight. I take no particular pains with them as I have a large country practice to attend to. Winter in the cellar, keep them in from November 25th to April 10th or 20th. I hope to see the JOURNAL semi-monthly before long.

J. HARPER, Mason, Mich., writes that bees have done well in his locality for the last three seasons and that the last year has been the best of all. He also mentions a fatal disease which has attacked his bees. Having found a goodly number dead, he inquired into the cause and found a maggot or crab, about the size of a horse-fly maggot, only they are wider between the eyes and very black. He states that he has put some of these in glass vials, and thinks they will hatch in the Spring; they are now in cocoon state. Some explanation is asked for from any one who has had any practical experience in that direction.

P. J. TALBOT, Viola, Iowa, says:—I deprecate all complicated hives, not because they are patented, but because they are very injurious to beginners—experienced apiarians will not use them. . . . The frames should be high enough from the bottom of the hive to allow it to be easily cleaned out with a small scraper and slip board at the bottom and rear of the hive. That should be attended to often if the weather will permit.

MR. CAMPBELL of Tennessee, writes:—Three years ago I began with two stocks in box hives, one of which I transferred to the Langstroth hive, and the other to the Buckeye. Those in the Langstroth hive did well and increased rapidly, but the moths took charge of the other, and the bees refused to stay in it. I put them in three times, and the last time they

came out they took to the woods with a "whiz." I had no surplus honey this season. It has been a very poor year for honey in this locality.

S. J. FREEBORN, Ithaca, Wis., says: There is very little done in this section in scientific bee-keeping, but thanks to the JOURNAL, we hope to do a little in that line another Summer. What few bees there were left did very well in gathering honey last Summer. It was mostly collected from buckwheat, and was thicker than usual.

WM. MUTH RASMUSSEN, of El Monte, Los Angelos Co., Cal., writes: Last August a small number of bee-keepers of this county formed the Bee-keepers' Association of Los Angelos County. We do not yet count many members, but hope before long to have most of the bee-keepers of the county join us, and new members are coming in at each meeting. A committee appointed for the purpose, reported at the last meeting 3117 hives of bees in the county, and probably more which they had not been able to find. The yield of honey from these hives for the last season was estimated at 160,000 pounds.

THOS. H. HUNTER, Zanesville, Ohio, says:—This has been a poor season for gathering honey in this locality. From seven colonies I had only about a hundred pounds of box honey.

JOHN MIDDLEWORTH, Byron, Mich., writes:—The last two Winters will long be remembered by the beeksepers in this vicinity. I lost in 1871, forty-three stocks out of forty-six, and in 1872, lost thirty-three out of thirty-six. There was only one stock besides mine wintered, making only four in the township. I now have nine colonies, and hope for better success.

WM. ASHCOME, Ligonier, Pa., writes:—Bees have done better here the last season, than they have for the past twenty years. I never had them in a better condition than now. I keep them on their summer stands, using the one story Langstroth hive. In the Fall I pack between the outside and the glass with dry leaves, and since doing this have had no moldy comb.

J. A. FOULSTON, of Farley, Iowa, says:—I had ten swarms last Spring in very poor condition. I Italianized all but two, and increased them to fifteen colonies, and took three hundred pounds of honey with the extractor.

JAMES SCOTT, Epworth, Iowa, reportsas follows:—I went into winter quarters in 1872 with thirty-six stands: lost one in the cellar by starvation with plenty of honey in the hive. It was a two story hive, and I had neglected to remove the upper story. I lost seven in all, in the Spring sold two, leaving twenty-six, most of them in poor condition; but I obtained 1900 pounds of extracted honey and increased my stock to thirty-six.

MRS. V. C. CONDIT, of Howard Springs, Tenn. states:—Bees did poorly here until the 1st. of July, on account of wet weather. After that they did very well; but we had no increase.

W. J. DAVIS, Youngsville, Pa., says:—I prize the AMERICAN BEE JOURNAL very highly, and consider it worth more than all the other Bee magazines combined.

JAMES M. LAY, of Madison, Wis., writes:—In relation to the bee plant, *Monarda Punctata*, I think it grows best when sown in the Fall or in the Spring before the snow goes off. I sowed some last May that did not come up, but expect so see it next Spring. Lost all our bees last Winter: bought one swarm last Spring, and it increased to fourteen, besides giving 190 pounds of honey.

JOHN A. BUCHANAN, of Wintersville, Ohio, writes as follows:—Our experience in this locality is, that our gains are doubled by the use of the Extractor and more than doubled by reading and practicing upon the many valuable suggestions found in the columns of THE AMERICAN BEE JOURNAL.

H. ROOT, Otisco Valley, N. Y., states:—Out of ninety-nine swarms last year, only thirty-three survived, and most of them in a very weak condition. I increased them to only forty-one, my object being honey, and they gave me 1800 pounds of nice honey, which I sold in New York for thirty-six cents a pound. This was done by the black bee in the Langstroth hive. If any have done better, let us hear from them through the JOURNAL. You may consider me a subscriber for life.

J. T. WATKINS, of Sparta, Ind., asks several questions, which he will find fully answered in this number and the next.

ANNA SAUNDERS, of Woodville, Miss., writes that there are very few bees in that locality, but that the few are prosperous, there being no bee disease in that vicinity. She says farther:—I enclose you a few seeds of the Sage tree, which is as large as the medium sized Larch, and when in bloom is alive with bees. Will take pleasure in sending the seed to any one. In reply to her questions about the sale of queens, apiarian supplies, etc., we would refer her to our advertising columns. We shall take pleasure in testing the seeds sent.

A. B. Mason, of Waterloo, Iowa, called on us a few days ago. Mr. M. reports that Italian bees did not do well in his section of Iowa, on account of the severe drought in the early part of the season.

Mr. Lee, of Pecatonica, Ill., brought to our market 1400 pounds of comb honey in December. It was very choice indeed. We did not learn to whom it was sold. His bees were very successful during last season. He commenced the season with forty colonies, and now has over one hundred, and has sold over 3000 pounds, comb and extracted.

Mr. James J. H. Gregory of Marblehead, Mass., aims to supply one great want, which many a good farmer, when too late,has felt to his keen sorrow: Garden seeds that know how to come up, and when the crop is gathered prove to be just the kind the label said they were. Mr. Gregory is one of the few seedsmen in the United States who grows a large portion of the seed he sells, and he gets out a live Catalogue, as would be expected of the original introducer of the Hubbard Squash. His advertisement will be found in this number. His Illustrated Catalogue will be sent FREE to applicants.

Michigan Bee-Keepers' Convention.

The following report of the proceedings of that body is just received from the Secretary. He makes an apology for the delay upon the ground that he has been getting married, and, therefore, had no time to attend to matters of minor importance. We accept his excuse as being perfectly valid:

GRAND RAPIDS, MICH., Sep. 17, 1873.

7:30 P. M.—The sixth annual convention of the Michigan Bee-Keepers Association met, pursuant to notice, in the Court-House, at Grand Rapids, Vice-President A. C. Balch, of Kalamazoo, in the chair.

The minutes of the previous meeting were read and approved.

A number of those announced for papers not being present, the Secretary proposed that extemporaneous remaks upon some subject of present interest to bee-keepers be made.

The subject of Hives was decided upon. The point contended was for the most part the relative merits of one and two story hives.

Mr. H. A. Burch, of South Haven, claimed that in his experience the hive with a single story had proved the most successful.

Mr. James Heddon, of Dowagiac, defended hives of two or more stories. He piled his hives one upon another to the hight of two or three stories, and said by changing the frames from one part to another part of the sections, he had induced the queen to go into all parts of the hive and deposite her eggs, thus filling every part with brood.

Mr. Tomlinson, of Allegan, used a hive of one story, and very shallow frames, only six inches in width. He had, during the Summer just passed, increased his swarms from five to twenty in number, and had taken four hundred pounds of box-honey.

The meeting was rather informal, and considerable digression from the main subject was indulged in.

Adjourned until to-morrow 9 A. M.

THURSDAY MORNING SESSION.

The President still being absent, the chair was filled by Vice-President Balch. The order of business was announced to be the consideration of Artificial Swarming and the Honey Extractor.

The subject of artificial swarming was discussed and the various methods stated by Messrs. A. C. Balch, C. I. Balch, Heddon, Everard and Porter.

The Secretary then read an interesting paper by A. I. Root, of Medina, Ohio, upon "The Honey Extractor, its Uses and Benefits."

After the experience of some of the members present with the Honey Extractor was given, the meeting adjourned till evening.

THURSDAY EVENING SESSION.

The meeting was called to order by the President, T. F. Bingham, of Allegan, who had arrived during the day.

To the great satisfaction of all present, Prof. A. J. Cook, of Lansing, formerly Secretary of the Association, put in an appearance at the opening of the meeting.

The topic for the evening, as announced at the previous meeting, was the all important subject of Wintering Bees.

Upon this subject Prof. Cook had prepared a somewhat lengthy, able and scientific paper, which he read to the convention. The paper drew out a most hearty vote of thanks to Prof. Cook. Some remarks were made, and the experience of members stated on the subject under consideration.

Mr. A. C. Balch stated that according to his experience very little ventilation was needed in Winter, and gave his reason for such a position. He stated that with much ventilation there was a constant escape of heat, and that the temperature inside the hive would be more variable.

After a very interesting evening, the meeting adjourned until to-morrow morning at eight o'clock.

FRIDAY MORNING SESSION.

Meeting called to order by President Bingham. Minutes of last meeting read and approved. The convention then proceeded to transact miscellaneous business.

Motion made and carried that the Society hold a special meeting at Kalamazoo, the first Wednesday in May of 1874.

Motion made and carried to empower the special meeting at Kalamazoo to appoint the time and place of holding the next annual meeting.

The election of officers was then proceeded with, the following being the result: President, A. C. Balch, Kalamazoo; Vice-President, H. A. Burch, South Haven; Secretary, Frank Benton, Shelby, Oceana Co; Treasurer, T. F. Bingham, Allegan.

Motion made and carried that the retiring President and Secretary receive a vote of thanks from the Society for the faithful manner in which they have performed their respective duties.

A resolution was then introduced relative to amending the constitution so that instead of the former number of officers, there should be in addition a Vice-President for each of the several counties of the State, so far as represented in the Association. Adopted.

The convention proceeded to appoint Vice-Presidents for all the counties represented in the Society.

The meeting then adjourned until the first Wednesday in May, 1874.

J. W. PORTER,
Sec'y Mich. Bee-Keepers' Association.

T. F. BINGHAM, President.

To Bee-Keepers.

The North Eastern Bee-Keepers' Association will hold its fourth annual meeting at the Butterfield House, Utica, N. Y., on the 4th. and 5th. of February, 1874.

Questions of importance will be discussed. Bee-keepers are most urgently requested to attend and take part in the proceedings. In union there is strength. Please respond.

J. H. NELLIS, *Secy.*
M. QUINBY, *Pres.*

The *National Bee Journal*, Mrs. E. S. Tupper, Publisher, has recently been improved in its appearance by the addition of a neat cover. The *Journal* is well executed, and promises to be a success in the hands of the present Publisher.

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CHICAGO, FEBRUARY, 1874. No. 2.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Gallup's Corn as a Honey-plant.

In reply to persons who have made application for corn, we will say that it is climatic or atmospheric influence that causes a plant to produce Bee-forage in one locality, and not in another. For example, Mr. Adair and others say that buckwheat never produces anything in the shape of Bee-forage in their climate, while in my climate, both here and in Canada, it never fails to produce an abundance in ordinary seasons. The partridge pea is highly esteemed around Washington, while here Bees did not visit it at all. Timothy or herds' grass produces large quantities of pollen while in bloom here and elsewhere. We have seen fields of it literally covered with Bees while in bloom, yet we have never seen it mentioned as a Bee-plant. In 1870–71 our fields or patches of pop corn, smelt corn, or flint corn, were alive with the hum of the "little busy Bee," while it was in bloom. They seemed to gather pollen from the blossoms and honey from the silk at the same time. Then the corn silk glistened with sweet, yet in 1872 not a single Bee did I see visit it; and in fact white clover produced nothing in my vicinity in 1872.

Our old stand-by, the basswood, only produced forage for eight days in 1872, while in 1870, it lasted twenty days; and in 1871, it lasted in all, nearly thirty days; all owing to climatic and atmospheric influences. If the atmosphere is moist and warm, and well charged with electricity, then is the time our flowers produce the most forage. On the contrary, the atmosphere may be dry and warm, or hot, and flowers produce nothing. But by heavily manuring a piece of land for white clover or buckwheat, we can cause it to produce honey in a dry or cool season. Manure warms up the land, and it also causes a vapor or moisture to arise from the soil, which does not arise from an impoverished soil. We have noticed this repeatedly. We have seen a row of current bushes alive with Bees, that had been heavily manured the season previous, while a row that was not manured was not visited by the Bees. We have seen a four-acre patch of white clover that had been heavily manured the season previous, covered with Bees, while the clover field by the side of it was not visited by a single Bee. We have had some buckwheat on poor land, and on rich land at the same time.—That on the poor land was not visited, while that on the rich land was alive with Bees, and fairly scented the atmosphere with sweet around it. White clover on warm sandy land, produced abundance of forage the past season, while on clay soil it produced nothing.

Now, Brother Bee-Keepers, you can easily see from the above why you do not want my kind of corn, or my kind of hay, &c., for Bees. E. GALLUP.

Orchard, Iowa.

DZIERZON watched a queen Bee when laying, and noticed that she laid eighteen worker eggs in three minutes. She appeared to dispatch business still more expeditiously when laying drone eggs.

For the American Bee Journal.

A Letter from Kansas.

EDITOR JOURNAL: The past season has been to the Apiarist the poorest for years in this section of the State. The causes to which the general failure is attributed, are many; among the most prominent that might be mentioned were the cold Winter and backward Spring we passed through, which had the tendency to reduce the colonies to a few handfuls of bees (as a general thing), and the negligence on the part of many to stimulate and build them up early in the season. Consequently, when the early blossoms came there were no Bees to gather the honey. Most of the stocks, however, were pretty strong by the 20th of June, and in fair condition for the basswood harvest; but unfortunately the blossoms failed to secrete any of the sweet fluid. From the 1st of July to the 24th of September, we were subjected to drought, with very warm, sultry weather, causing a complete failure in the Fall flowers. It is very easy to perceive that we are not placed in an enviable position so far as the profits of apiculture are concerned. I was informed last week by a gentleman who has been in the business fifteen years, that out of sixty colonies with which he started last Spring, he has made no increase in his number during the season, and, unfortunately, has not obtained one pound of surplus honey. He farther states that two-thirds of his stocks do not weigh as much now as they did last March. You can draw your own conclusions. I have mine, which are, that in the Spring of seventy-four there will either be quite a demand for Bees, or there will be a large number of disgusted Apiarians.

As for myself, I do not profess to be anything but a beginner at the business; and I do not keep them for the profit, but for the pleasure derived from obtaining knowledge under difficulties. I started with one colony last year, I increased that one to five, and obtained about thirty pounds of surplus honey; lost one during the Winter. From four, have increased during the past season to eight; but have obtained no surplus honey. This is not a bad beginning, considering the disadvantage of residing in the heart of a city of twenty-seven-thousand inhabitants.

I have all my colonies in good condition, by feeding sugar syrup in November—six in the cellar, and two in an experimental hive outside. If this should prove a success, I will, in the Spring, furnish your readers with a full description of the method, and give them the benefit of it. LOU.

Leavenworth, Kan.

For the American Bee Journal.

Pollen.

In Vol. 9, page 28, I made the assertion that brood could not be raised without pollen. On page 27 J. Butler experimented in this direction, and declares that his Bees did raise brood without pollen.

Now, I must confess this somewhat astonished me, for it was contrary to all our knowledge and practice. I however believed Mr. Butler in his public statement, but still I thought there must be a great mistake somewhere. It however stimulated to further investigation, and I have come to the conclusion that he was right in his observation, but wrong in his conclusion, and in order to establish this I will quote high authority, but before doing so permit me to remark that it is admitted by all distinguished apiarians, both in Europe and America, that brood has been raised (to a limited extent, however,) without pollen *being visible*, as in Mr. Butler's case.

In Vol. 1, page 253, of the AMERICAN BEE JOURNAL, Dr. Donhoff, in analyzing the excreta of Bees, says: "What was left after again filtering could, from its insolubility, be only the remains of pollen. It appeared under the microscope like an indistinctly granular mass." When I first saw the above, I at once came to the conclusion that pollen was retained in the bodies of the Bees for sometime, and the following further convinced me, as well as solved the mystery.

Baron Berlepsch, on page 230, Vol. 1, says: "It has been demonstrated that common workers are produced in colonies which have not a particle of pollen

in their hives, and at a time when the Bees could not gather any. * * * But it is by no means easy to determine when there is an entire absence of pollen, or its essential equivalent in the hive."

There may not be a particle of it discoverable in the cells, and yet a store of it amply sufficient for the needs of the larvæ may be deposited in the stomachs of the workers, or their general organism. I hope, from the above, Mr. Butler will see that his Bees had some pollen. ARGUS.

For the American Bee Journal.

Good Bee Location—Rape Seed.

MR. EDITOR:—It is with a great deal of hesitation and a troubling of conscience, that I again ask for a corner in the JOURNAL, for I have already had rather more than my share of "space." But there are a few words that I would like to say.

Mr. Colburn, in the December Number, would like to know where he can find a good place to start an apiary, not too far from Chicago. Now, I don't wish to boast of *my* locality, nor would I like to coax any one here, lest he should afterwards be discontended and then blame me for so doing. Therefore, I would say, that he could find many such places as he mentions, between here (Berlin) and Milwaukee,—there is plenty of Basswood; and the country is old enough so that white clover has well set in, wherever it has an opportunity to grow. In addition to this, we have plenty of buckwheat—at least in this vicinity—and also many cranberry marshes, which were referred to as being of value, by the editor, in the November Number of the AMERICAN BEE JOURNAL.

Berlin is about 180 miles from Chicago, and can now be reached without change of cars, *via* Milwaukee, which is 90 miles from Chicago.

If the gentleman wishes further information I shall be glad to answer his questions through the mails. The best way, however, to ascertain the truth, would be to pay us, or this part of the country, a visit.

Mr. Frank W. Chapman gives a report from his rape seed. I am sorry he is so sensitive as to give up its culture, because his neighbors make fun of him about his "turnip patch." But I don't see any fun in it. Mr. Dadant and my brother, in Illinois, planted turnips *expressly* for Bees; and I can't see where the laugh comes in. But some people are, perhaps, more easily amused than your humble servant. He further states that he thinks it was too dry. Well, from what I have learned about the weather in Illinois last Summer, I should think it *was* too dry. Mr. Dadant reports nearly an entire failure, 1,000 lbs. only, from 230 stocks, I think, because of the severe drought.

Rape seed should be planted on good, rich soil—soil where wheat or other grain has been raised, will be good, because grain will leave that portion of nutriment in the soil which rape requires—and, of course, the weather must be favorable for it, as well as for other farm products. Lastly, the time for harvesting must be well watched; as soon as the kernel is filled and turns, cut it; and as soon as sufficiently dry, haul it in.

Mr. Editor, the December issue is, in my judgment, of extraordinary interest. Long live the AMERICAN BEE JOURNAL! for it is *the* "right bower" in the pack of different Bee journals that adorn our shelf. J. D. KRUSCHKE.

Berlin, Wis.

For the American Bee Journal.

Chips from Sweet Home.

Two years ago I lost six hives by disease, and last winter I lost fifty-five hives, being all I had. They were left on their summer stand. This Winter I put ninty-five hives in my cellar during the first cold snap, all but seven were put in three days after they flew, the seven two days later, Nov. 28th. I now have four cases of the disease out of the seven. They have been very uneasy ever since taken in. My cellar is 20x24, the sides and bottom are cemented, a chimney built on the bottom of the cellar, with an opening at the bottom in which there is a continual draft, besides four windows which I open nights to cool

the cellar and close daytimes. I have never given my opinion as to the cause of the disease, for I had none. I noticed Bees which were housed *early* escaped the disease.

I will now give what I suppose to be the *cause of the disease*, and if there are any exceptions we shall be pleased to hear them.

All Bees which have died of the disease have been exposed to a *week or more* of cold weather, during which time they *gorge* themselves with honey, if then they are moved into cellars or Bee houses, or are kept confined by cold weather so that they are unable to empty themselves, dysentery will be the effect every time.

Will "Novice," or others who have fed sugar syrup, try an experiment as follows? Leave a hive out during a week or more of cold weather, then, without allowing them to discharge, take them in a Bee house or cellar, and report the result.

To-day I set the four ill-fated hives out and let them fly.

D. D. PALMER.

Eliza, Mercer Co., Ill.

Bee Notes from Darwin.

Bees have solved a recondite problem. They have made their cells of a proper shape to hold the greatest possible amount of honey, with the least possible consumption of precious wax, in their construction.

No human workman is skilful enough to do what a crowd of Bees can do—working in a dark hive—make cells of wax of the true form.

The number of humble Bees in the country will depend upon the number of cats! How can that be? Because the number of Bees is dependent upon the number of field mice, which eat the Bees. Hence the more cats, the fewer mice; and the fewer mice, the more Bees.

If the whole germs of Humble-Bees became extinct, or very rare, the heart's ease and red clover would become rare or wholly disappear. How is that? Because Bees promote the growth of those flowers. The visits of Bees are necessary to the fertilization of some kinds of clover, and almost indispensable to the fertilization of the heart's ease, for these Bees do not visit this flower. Humble-Bees alone visit red clover as other Bees cannot reach the nectar.

In a word—no Bees, no seed; no seed, no increase of the flower. The more visits from Bees, the more seeds from the flower; the more seeds from the flower, the more flowers from the seeds.

Nearly all our orchidaceous plants absolutely require the visits of insects to remove their pollen-masses and thus to fertilize them.

Twenty heads of unprotected Dutch clover yields 2,990 seeds. The same number protected from Bees produced not one seed; 100 heads of unprotected red clover yielded 2,700, and the same number protected from Bees not a seed.

Pruning Broods.

Pruning brood combs is generally quite unnecessary, in fact is more often injurious than otherwise. If they ever require excision, it can only be when they are so overcharged with pollen as to render breeding impossible, in which case the operation should be performed in the Spring. Pruning them after the Bees have swarmed and cast, is very unwise for several reasons. First, there is a possibility that during a glut of honey, the Bees would build an excess of drone comb, or supposing their queen to be lost, that they would build drone comb exclusively, if any; second, that having to replace the excised comb, they would be less likely to yield a surplus in their super; and, third, there is the undoubted fact that Bees winter much better in old combs than in new ones, because being coated with so much silky fibre, they are the warmer of the two, and again there is the chance that in an unfavorable season they may be unable to build any comb at all.—*British Bee Journal.*

A person who has familiarized himself to Bees, can by means of the passion of fear impressed upon them, and by that dexterity in the management of them, which can only be acquired by practice, manage Bees as he pleases.—*Wildman.*

Bee Keeping for Farmers.

Some have adopted Bee keeping as the business of life; and these have mostly attained a flattering success. Others engage in it as a pastime and amusement chiefly.

Apiculture has made great advances of late years. The intelligent Bee-keeper no longer consigns his favorites to a hollow log, or rude box, nor what is even worse, to any of those absurd contrivances which have proved the ruin of thousands of happy colonies of Bees, and provoked the disgust of their unfortunate owners. But providing himself with some form of movable comb hive, well constructed, and having a sufficiently capacious brood chamber (or main apartment) and suitable arrangement for surplus honey, he enters upon the pursuit with fair prospect of success. Those who have once learned how to keep Bees, will not soon abandon the pursuit.—*Western Agriculturist.*

For the American Bee Journal.

Queen-breeding and the Cost of Italian Queens.

I was once amused by a would-be wise Bee-man, under the following circumstance: I was on my way to introduce a number of Italian queens for a friend, when I reined my horse up to a watering trough, and the following dialogue took place:

What is that in your buggy, boxes of honey? (inquired Mr. Johnson, a portly farmer.)

No sir, I have some Italian Bees and queens in those boxes.

Now, Mr. Davis, you are doing wrong in scattering all those yellow jackets through the country. They are running the black Bees out, and they won't work, they don't make any honey. What do you get for those queens?

They are worth, when safely introduced, five dollars each.

Five dollars each! Oh! I thought you was a Christian man. Five dollars each—It don't cost anything to raise queens; not more than it does to raise flies.

I replied, Mr. J., you may possibly lie under a misapprehension of the *facts* in the case. If Italian Bees were as you describe them, they would be quite likely to perish during our long, cold Winters. But, sir, you are quite mistaken about the industry of the Italian Bee; and I would like to ask how much experience you have had in queen raising?

Oh! I never raised any queens, but my Bees always have queens enough.

We argued the case at some length, but he "would not be convinced." Mr. J. was one of those men who hold to an error on any subject, with the same tenacity as to the most precious truth.

But let us try the figures on the *cost* of rearing queen Bees for the market, as it appears that an erroneous view has obtained in some quarters. Queen-breeding, like any other enterprise, should be prosecuted in the best modes of the art, to secure the best results. To do this we think that the nucleus system proposes the most advantages for producing queens in any considerable quantity. We will make an estimate of the results of 100 nuclei hives. The first item of expense will be the cost of hives, which for getting up in good shape, ready for use, will cost about one dollar each, or $100.00 for the lot. To stock 100 nuclei with Bees, say by the first of May, will require the Bees and most of the combs of twenty-five fair stocks. To produce the sealed queen cells will take the labor of about ten stocks more, making thirty-five stocks.

Now for the results: In this latitude, good queens can not be produced more than four months in the year, viz., May, June, July, and August; and a good average is 400 queens for the season. Now let us see what our thirty-five stocks should produce in honey if not used for queen breeding. It has been estimated at 200 pounds extracted honey per stock, some stocks yielding 300 pounds. But we will take the lowest figure, 200 pounds each, or 7000 pounds, which at sixteen cents per pound would be $1120. Add to this the labor of an experienced Apiarist, which for the four working months would be reasonable at $100 per month—$400. Add to this the difference in the value between thirty-five first class stocks with their increase,

and 100 nuclei hives, say $275, and we have a total of $1795 as the cost of 400 queens—or $4.49 each.

We consider the above a fair estimate for any locality where strong colonies will average 200 pounds each, surplus honey. In less favorable localities the cost would be reduced. But where stocks could collect from fifty to fifty-three pounds per day, the cost of queens would be very much increased. In our estimate we have omitted a number of Items on each side of the question, but as they would so nearly balance each other, they would not materially affect the result.

W. J. Davis.

Youngsville, Pa.

For the American Bee Journal.

Feeding Bees out-doors the first days of December.

Thus far we have had a very favorable Fall and Winter for Bees. Only about one week ago, I was doing what perhaps ought to have been done sooner, viz., feeding up with sugar syrup a few of the weaker colonies. The weather was balmy and nice, and the Bees very lively; and for about three days, I had them very busily employed.

My mode of proceedure was thus: I took some tin plates, and after putting straws, little chips, etc., as rafts and foot logs for the Bees, I removed the back glass partition of the inner chamber, and slid the plate, full of syrup, under the lower ends of the combs, on the top of the bottom of the frames, and as near to the cluster as possible. This is the best way I have tried to get the Bees to do "big work." When empty (which can be seen without opening into the brood-chamber), the plate can be replenished from the top of the hive through a hole in the honey-board. In this way they do not have any cloth to penetrate first, but have only to crawl down the cluster, which forms down to the syrup, and help themselves. Robber Bees did not trouble much, but one or two of the weakest I kept closed while feeding them. I will put these hives in the cellar whenever the weather is severe, and if they are troubled with *Asiatic cholera* in the Spring, I will let you know it.

Black Jack, Kan. M. A. O.

Bee Keepers' Association of Mississippi.

At a meeting held at the Fair Grounds, Jackson, Mississippi, on Saturday, the 15th of November, 1873, the following named gentlemen organized themselves into an Association, to be known as the Bee-Keepers' Association of Mississippi.

W. F. Standefer, Dry Grove, Hinds county, Miss,; L. F. Alford, Jackson, Hinds county; P. F. Rajan, Pelahatchie, Rankin county; S. R. Sorsby, Spring Ridge, Hinds county; T. A. Catchings, Jackson, Hinds county; M. P. Simpson, Jackson, Hinds county; D.M. Wilkinson, Jackson, Hinds county; J. M. Shaw, Jackson, Hinds county; F. S. Hunt, Jackson, Hinds county; D. V. Culley, Madison Station, Madison county; J. E. Goodlett, Terry, Hinds county; E. W. Cabaniss, Clinton, Hinds county; W. D. Smith, Edwards, Hinds county; J. W. Ennis, Auburn, Hinds county; J. S. Barfield, Jackson, Hinds county; Joseph Gray, Raymond, Hinds county; Col. Johns, Boltons, Hinds county; J. J. Lester, Jackson, Hinds county; W. S. Cable, Clinton, Hinds county; O. P. Wright, Jackson, Hinds County; George Boddie, Jackson, Hinds county; N. S. Elkins, Brownsville, Hinds county; S. J. Carter, Mississippi Springs, Hinds county; S. P. Baley, Jackson, Hinds county; T. W. Harris, Jackson, Hinds county; A. J. Frantz, Brandon, Rankin county; C. W. Hicks, Clinton, Hinds county; E. M. Alford, E. Cook, Dr. W. F. Graves, John H. Echols, L. F. Childs.

The following resolutions were adopted:

1. Resolved, That this Society shall be known as the Bee-Keepers' Association of Mississippi.

2. Resolved, That the annual meeting of this Association be held at Jackson, Mississippi, at the time of the State Fair, or at such other time and place as the President may direct.

3. Resolved, That we ask the co-operation and aid of all interested in Bee-Keeping, by reporting their successes and reverses, through the columns of the Farmers' Vindicator.

4. Resolved, That a committee be appointed to examine and test all Apiarian improvements, that may be sent to this Association, and report on the same.

5. Resolved, That we tender our thanks to the Editor of the Farmers' Vindicator, for the use of a column in his paper for the benefit of our Association.

L. F. Alford, President.

W. F. Standefer, Secretary.

The following officers were elected to serve for the ensuing year:

L. F. Alford, President, Jackson, Hinds County.
Dr. T. A. Catchings, Vice-President, Jackson, Hinds county.
W. F. Standefer, Secretary, Dry Grove, Hinds county.
Joseph Gray, Treasurer, Raymond, Hinds county.

The following committee was appointed under the fourth resolution: S. K. Sorsby, W. F. Standefer, W. S. Elkins, F. S. Hunt and Jas. Barfield.

The Bee and its Winter Habits.

Valuable extracts from an address delivered before the Bee-keepers' Convention, by Prof. A. J. Cook, of the Agricultural College, Lansing, Mich.

MR. PRESIDENT:—I think I hazard nothing in the remark that no manual labor pursuit yields as great a per cent. on the capital invested as apiculture. During the season just past—in no wise an extraordinary one as to the honey harvest—my Bees have netted me over $33 per colony, about 200 per cent. on their value. Add to this the fact that I started with only one Italian colony, and have Italianized my whole apiary, and you are enabled to see that the profits of Bee-keeping are by no means inconsiderable. And this is not an isolated case. It is to be hoped that all of you are subscribers to that most excellent periodical, the AMERICAN BEE JOURNAL, of Chicago. In that you have read of Adam Grimm, of Wisconsin, with his several apiaries and immense returns, which are often fairly startling; of A. I. Root, of Ohio, who is doing wonders not only in obtaining prodigious returns of honey, but in fostering apiarian pursuits.

Yet I would not assert that this bright picture of profit—and I might aver of real pleasure, as well—has not its shadows. The agriculturist has his droughts, the pomologist his dreaded blasts of Winter, the merchant his eras of depreciated stock, so also the bitter is mingled with the sweet in the apiarist's cup, and how many apiarists all through our country, since the bitter experience of the past two Winters, have little of the sweet in their expression as you speak to them of Bee-keeping. They too can speak of the Winter of their discontent.

Let us therefore analyze closely the dangers in the way of successful Wintering of Bees, in the light of their history and habits, and see if we may not at least *hope* to avoid in future the stumbling block which has so essayed to overthrow us in the successful prosecution of our favorite business.

That Bees will endure very severe cold is certain; that they are ever so frozen as to be thus destroyed needs proof. I knew a colony of Bees to winter well during the terrible cold Winter of 1871–2 in a hive with an unsealed crevice, and resting on the summer stand. Now all animals while hibernating take no food nor exercise, hence there is little destruction of tissue, and little exertion. Now it is not probable that, could we keep our Bees during all the months of Winter at an even temperature—at about the freezing point, or a little above—they would, if normal and healthy, Winter well, and consume scarcely any food at all. Does not this explain the not uncommon phenomonon of strong colonies wintering on three or four pounds of honey?

Now, if the above proposition can not be disapproved, is not one of our chief desiderata in wintering to secure such conditions as will insure even temperature?

With the best management there will doubtless be more or less food consumed during Winter; hence good food is indispensable. By good food I mean good thick honey gathered from the flowers, and all capped over, or else coffee A sugar fed by the middle of September, or so early as to be all capped over before Winter and rest comes on. Again, during the early Spring breeding must commence. This only follows upon warmth, activity and food-taking. Thus we need not only good honey to serve as food for the mature insect, but there must also be an ample supply of pollen or Bee bread, that the larvæ or immature Bees may receive proper food. Hence we conclude that our second desideratum, in successful wintering, is to have the stores which are designed for Winter consumption, of the best quality, and also a sufficient amount of Bee bread that the early Spring brood may not lack nourishment.

Again, it is a truth well understood by all physiologists that the greater the animal's activity, the more rapid the destruction of tissue, and unless the tissues can have periods of rest, they will soon become powerless to perform their allotted function, and hence death must result. Suppose we should labor constantly, taking no rest, how soon would

we succumb, becoming victims of unremitted toil. Would we keep our muscles in good condition we must give them stated intervals of rest. Thus we understand the phenomenon of sleep, which is only a generalization of that necessity which causes the woodman to lower his axe, being an imperative requisite to the recuperation of a tired body, a body so exhausted that the nerve as well as muscular system needs to rest.

Now, in the light of the above, can we wonder that the "busy Bee" ever active to obtain the most from a not over long harvest—or in quest of that which is not, so busy that the apiary not only swarms with life by day, but sends forth the full, joyous note of industry all the hours of the long night through, should present a longevity so brief. Is it not beautiful, and does it not merit our gratitude—this fact that the little Bee becomes a willing martyr to the love of storing? Because of this unrivaled activity, the worker Bee lives only from two to three months. Now, suppose the queen ceases laying the last of August, as she is quite sure to do, if old or poor, especially if the Bees are gathering no stores. By the time Winter sets in the Bees will all be old, and in the Spring the few that have survived will endure but few flights, so that colonies—as was the case with so many in our State during the past season—will Winter through, only to succumb to the more genial spring days, giving no signs of dysentery, nor yet of starvation.

So again, it is probable that to insure certain success in wintering, we must see to it that breeding continues well into the Fall, that every hive shall have brood in October.

Mr. Hosmer, of Minnesota, was the first, as far as I know, who gave this explanation, and reason certainly sustains the view, unless forsooth, the Bees that are old in Fall, revive by the long Winter's rest, renewing their youth. So we see, to uniform temperature in Winter, and sufficient and the right kind of stores, it is well to add the advice suggested by the above, to so manage as to have the brood reared in our apiaries late in the Fall.

Our last theory as to disastrous wintering is an entirely visionary one; Epidemic—a very convenient explanation for we seem to give a reason, yet when we analyze it, it is no reason, nor are we usually able to give a reason when we decide thus.

A few years ago the chinch bugs, which for a long time had been very numerous and destructive in Illinois suddenly disappeared. Dr. Shimer, a distinguished entomologist, at once pronounced it epidemic. Later experience demonstrated that excessive rains banished them. That exceeding dampness is, happily, very destructive to the chinch bug. So too the silk worm epidemic in France, yet the thorough and most praiseworthy researches of Pasteur, brought to light the real cause of febrine, and consequently the cure was made known and silk-culture saved from utter extermination.

So too in Bee diseases, I fully believe that the maladies which have been so disastrous the past two Winters come, as any one may prove, within the easy range of our understanding, and escape. Should I be mistaken, or should a more intricate trouble appear among us, we need not even then despond, for the experience of the past bids us rest firm in the hope that with careful study, making use of the appliances which science brings to our aid, we shall be able to explain and conquer the most complicated disease.

Now having the theory of safe wintering before us, which, as we have seen, combines even temperature a little above freezing point, good and sufficient stores, and late Fall brood, let us examine and see if there be any experiments or experience that will sustain this theory.

The past Winter I buried my Bees in snow, making them the nucleus of a snow bank from the last of November till the 1st of March. The result was, they preserved an almost death-like silence, consumed very little honey, and in the Spring there was not in any hive a sufficient quantity of dead Bees to fill a small tea cup. In fact, I never saw colonies appear brighter, or do better than they did. It has long been the opinion of observing Bee-keepers, found-

ed on experience, that even Winters, with steady, continuous cold, are far less disastrous than changeable ones where there are many periods of warm weather.

Again, those who have cellars, or special depositories where they are enabled to keep the temperature uniform, have always been the most successful.

This also explains the—what some would call absurd theories of Gen. D. L. Adair, of Kentucky, and Mr. Balsch, of our own State, that Bees require no ventilation to ensure safe wintering. If in an even temperature, never rising above 35° F., the Bees are so dormant that they really do need very little air. To prove this I froze up the opening of one of my snow-bound hives, last Winter—the entrance of all of them were deeply covered with snow—so that it was hermetically sealed, and yet, I never had a colony Winter better. There was not a tablespoonful of dead Bees on the bottom of the hive in the Spring. This at least tends to prove that Bees, if kept from getting too warm, will need not only very little food, but also very little air. That it is not from cold Winters that the Bee-keeper need have apprehension, but from periods of sufficient heat to arouse the Bees from their torpor.

We next speak of the kind of honey. In the Fall of 1871–2, I placed twelve colonies of Bees in a dry, dark and quiet cellar at the Agricultural College, where I had for years kept Bees from the last of November till the last of March, without any loss. The previous Autumn had been, as you will remember, unprecedentedly dry. There were scarce any flowers in bloom, yet the Bees were very active gathering stores, even to the very verge of Winter. In October I prepared the colonies as usual for the cellar. Found much thin, unsealed honey. Supposing that it would thicken and be capped over in a few days, I took special pains to leave it in the hive, taking out all the nicely capped honey which they had stored early in the season. I did not sell all of this nice honey, but kept a little of it over.

Having placed the Bees in the cellar at the approach of cold weather, the last of November, not dreaming that any bit of harm could come to my pets, I left the college, not returning till the last of January. Imagine my surprise upon visiting my Bees, at finding that the usual and supposed quiet had given way to a terrible uproar. Upon examination I found over half the colonies dead, and the five that were still alive were in a sore condition, indeed. I selected one colony, in no wise better than the others, on which to experiment. I assure you, faith added not a whit to my success. I took my fresh, good honey and placed it in the hive, taking out all that was tainted or besmeared. My surprise was equal to that of the prophet, for those "dry bones" did live, and that colony netted us about $80 the next Summer. I need hardly say that the other colonies all died, though I gave them all the opportunity to drop their fœces. The honey proved to be still thin and uncapped and very unpleasant to the taste—in fact, fairly sickening. The odor of the diseased colonies, caused no doubt by their excessive discharges, was also very nauseating.

I now think that the real source of the honey was in the insect secretions—though I did not think of it then. The dry Fall was very favorable to insect life. Our beach trees were fairly covered with a plant louse—(*Pemphigus imbricator*, Fitch.) Other nectar secreting plant lice were very abundant. On the Tulip trees were hosts of large bark lice—a species of Lecanium, which also secreted a sweet substance—we may call this honey dew. I think louse secretion a more fitting cognomen. Now, as the Bees were seen constantly swarming in these trees, is it not more than probable that this was the source of the bad honey, and the cause of the terrible Bee malady of the Winter of 1871–2? I visited and examined a good many apiaries around Lansing and Owosso, some of which had escaped, while most had met this fatality, and it seemed to me that both of these conditions could be easily accounted for on this theory of poor honey, we only having to consider locality and management.

As many of you know, Mr. Hosmer, a very intelligent and successful apiarist, of Minnesota, accounted for the terrible

fatality of the Winter of 1871–2 by the absence of Fall brood in the hive. Now, while I was sure that this was not the correct explanation in the vicinity of Lansing, as I never knew my Bees to have more late Fall brood than during that Autumn, yet I thought that it might account for loss in some localities where the extreme drought precluded any late bloom, and where there were perhaps no nectar-secreting insects; especially as it was not difficult to find localities where Bees had died without appearance of dysentery. So during the Summer of 1872, I removed the queens from two colonies, preventing the rearing of brood from August till late Fall. In all other respects these colonies were treated the same as the remaining colonies of my apiary. All the colonies wintered well, with no appearance of dysentery, but these two died off so rapidly after setting them on the summer stands, that in a very few days my apiary numbered two less colonies. Those which had brood October 1st the preceding Autumn, not only came through the Winter, but have done exceedingly well during the past Summer. Hence, so far as this experiment goes, it proves that successful wintering demands that we should keep our Bees breeding well into the Fall. I quite believe that neglect in this particular was the direful spring of last Winter's woes—especially about Lansing.

Do you ask then, how would I prepare my Bees for Winter? I most cheerfully answer:

1st. I would arrange to protect them against warm winter weather, by so guarding them that they would not feel it.

This may be done by preparing a thick, double-walled special depository, by placing them in a cool, dark, quiet and dry cellar, which is beyond the influence of changeable weather; or, if it is preferred to leave them on their summer stands, by either making them the center of a huge snow bank, in which case caution must be taken to so arrange that water from melting snow can not run into the hives. (The wind-break of the apiary might be so constructed that nature would bank up the snow for us, by placing our screen a little to the west of colonies which we wish to protect); or, by putting the hives near together, we could place boards about them, and pack in with saw-dust, straw or shavings, and thus protect them from the changes of Winter. Yet, if we are not sure to keep them cool and quiet, we must be careful not to stop up the entrances to the hives.

To secure good Winter stores we may either follow Mr. A. I. Root's suggestion, extracting the honey and feeding a syrup made of coffee A sugar, a safe and economical method, as the honey is worth enough more than the sugar to more than pay for the trouble; or, we may take pains that they have none other than honey gathered from flowers and all capped over as soon as the buckwheat harvest is past. I should prefer, too, that they have a good quantity of Bee-bread, that there may be no hindrance to early Spring breeding.

Again, I would have none but very fertile queens, and be sure to have brood in October, even though in extreme cases I might have to feed to secure it.

I should have some empty comb in the center of the hive, and should prefer to have at least thirty pounds of honey in each hive, though if rightly managed, I should expect my Bees to consume but a small part of it.

Having made use of the above precautions during the past Winter, not only with my own Bees and those of the college, but also by suggestions securing the same in a neighboring apiary, wintering in all of the three cases was attended by the very happiest success, while so far as I know there was not another colony of Bees Wintered in the whole locality.

Now, Mr. President, I would not be too positive that I have got to the core of this subject of wintering Bees, for it behooves us all to be very slow to express opinions adverse to those entertained by such cautious, candid men, as Mr. Quinby and A. I. Root, and even more slow to generalize in matters complicated by life, where very many experiments are ever necessary to render us certain as to results. Yet I feel con-

fident that the above suggestions have experimental foundation sufficient to merit a hearing, and I as fully believe that if heeded they will very materially change the complexion of apiarian pursuits in our State.

For the American Bee Journal.

"What Killed the Bees."

The answer given to this question by Mr. Quinby, in the December number of the JOURNAL, is—"*cold.*" He says: "I have made diligent inquiry, and studied cause and effect with the best of my ability, and now repeat my conviction that cold is the cause of the failure to winter, dysentery being an intervening link." Again: "I know of nothing to produce dysentery, except cold weather." And again: "No doubt other causes destroy lives sometimes, but I have yet to find the first case where a large number, with sufficient honey, was lost, and cold not at the bottom."

Mr. Quinby, as well as Mrs. Tupper, to whose views on this subject he refers as coinciding with his, is deservedly high authority on apicultural questions. His long experience, close observations, and unquestioned candor, entitle his opinions to great consideration. But, at the wish of being considered presumptuous, I will take the liberty of stating a few facts in my own experience, which seem to me to refute this theory of Mr. Quinby.

In the Autumn of 1868 I had nine stocks, eight in box hives and one in a Langstroth, and all strong in numbers and rich in stores. They began to die *about the first of November*, some time before "cold weather" had set in. My attention was first attracted to the matter by an unusual number of dead Bees found in the morning before some of the hives, while the others were yet free from such trouble. The affected stocks continued to die, one or two of them so rapidly that before the last of November all of the Bees in them were dead. The surviving colonies were housed for Winter about the first of December, some of them at the time but slightly affected with the malady, and others not at all. My house was made especially for the purpose. It was about eight feet square on the inside; had double walls, with the space of 10 inches between them filled in with saw-dust; and was slightly ventilated at the top. The temperature within was quite even, seldom falling below the freezing point in the coldest weather. With all this protection every Bee I had died *with the dysentery* before the last of February. All those hives had "sufficient honey," some of them having on hand thirty or forty pounds of solid comb; nor was it possible that cold was at the "bottom" of their loss.

As this disease was a mystery to me, I wrote to Mr. Quinby soon after my Bees began to die, for light on the subject, and received from him a very satisfactory answer. The cause, to which he then attributed the disease, was much more consistent with the facts, in my judgment, than that which he now assigns. It was *impure honey.*

In the Fall of 1871, I had over sixty stocks in Langstroth hives, which I put up for the Winter about the middle of November. These I placed in a dry, dark and warm cellar, under my kitchen and dining room. In the same floor I had kept through the previous Winter ten stocks, with the loss of not over half a pint of dead Bees to the whole lot, and on an average, by actual weight, of five and a half pounds of honey to the hive. This cellar is so warm that I have kept Irish potatoes in it, without any covering, through the coldest weather. My sixty odd stocks had not been in it over a month before they began to die with the unmistakable dysentery, and before the ensuing Spring, forty-three entire colonies had perished. It would be utterly absurd to assume that they died from cold, either directly or indirectly, for there was nothing cold about them. Nor did they starve. They had enough honey, such as it was. But the most of it was gathered late in the Summer, mainly from buckwheat. The prolonged drought in the latter part of the Summer had caused them to consume most of their early stores. The ten stocks that had Wintered so successfully the year before, had honey that was stored in the early part of the

season. This was the only perceptible difference in the condition of the stocks of the two Winters. If there was any difference in their temperature, the stocks that died were the warmer.

I have now twenty-seven colonies in the same cellar. They were stored away about the middle of November, and are now (Dec. 22nd) in excellent condition. About the 1st of October I found two or three of my strongest stocks literally starved to death. On further examination the serious fact was disclosed, that in the twenty-seven surviving stocks there were not *twenty-seven* pounds of honey! I immediately purchased a barrel of good coffee sugar, made it into syrup, and fed it to my Bees. They are now temporarily Wintering almost entirely on sugar syrup, a few of them only having the smallest amount of honey; and the less they have of it, the better, in my opinion.

It may be that cold will produce dysentery; but I feel certain that its absence, or rather, the presence of warmth, will not always prevent it. While Bees should be kept in a comfortable temperature, they should also have a pure and healthy diet. The food, my observation proves, is of more importance than the temperature. Why, or where, the honey is impure, I am not now prepared to say; but that it is at times unfit for the use of the Bees, I have no doubt. That good sugar syrup, well cooked, is a healthy and safe Bee food, I have demonstrated to my satisfaction. Hereafter, if the droughts do not render it unnecessary, I shall extract all the honey from my Bees in the Fall, and feed them upon syrup.

M. C. HESTER.

Charlestown, Ind.

The most complete check upon robbing Bees is to place a bunch of grass, or wet hay over the entrance to the hive. The Bees will find their way to the entrance to their own hive, the robbers will be caught by the sentinels in passing through the grass, and soon cease their pilfering. —*Exchange.*

Italian Bees increase faster and have many qualities superior to the black.

Translated for the American Bee Journal.

Dzierzon.

EXTRACT FROM THE HISTORY OF BEE-KEEPING IN THE GRAND DUCHY OF HESSE, IN COURSE OF PUBLICATION IN "DIE BIENE."

For the purpose of perfecting our essay, we shall here submit the general remark, that, not only France, who is well known to claim for herself the credit of all great discoveries and inventions, but also Germany has denied to Pastor Dzierzon the merit of having discovered anything new. They argued thus: The foundations on which the great discoveries of the present era rest, were present long before the appearance of Dzierzon; the incidental points at which the old and new eras separate, must be sought for where the first bright rays of light fell on that mysterious darkness of bee-life — the sexual relations of the three different orders of bees. Into this darkness, however, before Dzierzon's time, some faint glimmers of light had fallen; and he, like all great explorers of unknown territory, had his forerunners and pioneers. Already had a Janscha (died 1774), a plain farmer of Upper Carnolia and later, professor of Bee-keeping in Vienna, made, by his observations in the large apiary founded by the Empress Maria Theresa, the discovery that the queen is impregnated by the drone outside of the hive, and but once during her life-time. The discoveries of Schirack, that queens may be reared from worker eggs, was also earlier, as also his discovery of fertile workers. Based upon these discoveries, and also the investigations made by the Natural Philosopher, Raumer, did Francis Huber, with the eyes of his assistant, Burnens, (Huber having become blind in early manhood), make further observations, and located a chain of facts which spread a light over the natural history and domestic economy of the Honey-Bee. Then also the invention of the movable-comb system was worked out, in anticipation, by the frame or leaf hive, which served Huber in his observations, and was afterwards much improved by Morlot and others. Now,

only the man was wanting, able to make one grand, general experiment, embracing the preceding observations and discoveries; and who, like Huber, would be able, with unbending will, to pursue this new system of natural philosophy to the conviction of its opponents.

And this man was none other than Dzierzon. To desire to take away from him the merit of being the real founder and discoverer of this new system of Bee-culture, would be but the repetition of that old, and oft-repeated history, in which little minds seek to oppose the genius that discovered a new idea. This jealous spirit is so deeply implanted in mankind, that, among the ancients, it often served as a source of ridicule. When Pythagoras had discovered his renowned mathematical theorem, for thankfulness he offered to the gods one hundred oxen (hecatomb); and since that time it has been said, all oxen shudder when a clever thought is revealed to the world.

John Dzierzon, born in 1811, in a villiage of Middle Silesia, studied, in 1830, at Breslau, Roman Catholic theology, having at the same time, a strong inclination for natural history studies. In 1835 he was located as a priest at Carlsmarkt, in Silesia. His parish was small, and his labors light. All his spare time was given to practical Bee-culture, and the careful study of all the previously published Bee literature, and the careful testing of the various discoveries concerning the nature of the Bee. Of great value to him now, in his observations and experiments, was his arrangement of the hive with movable combs, which he used long before they were known in other circles. His first essays appeared in the *Frauendorfern Blattern*. His first contribution to the *Eichstadter Bienenzeitung* appeared in No. 12, of 1845, p. 122. Shortly afterwards, a new and improved system of Bee Culture, by Pastor Dzierzon, was published by Bruckisch, commonly called "Theorie and Praxis." So little profit did Dzierzon then anticipate from this valuable work, that he allowed it to pass into other hands, and it was published with various notes, which served to deteriorate and mar it. Later, his supplement to "Theorie and Praxis," was published under commission by Beck, in Nordlingen. Since 1846, he has been a constant contributor to the *Eichstadter Bienenzeitung*, and, at the great annual gatherings of the German Bee-keepers, he is the king around whom they all cluster.

But he had a hard battle, until he had broken the way, and made such able opponents as Busch and Baron von Berlepsch, his friends and well wishers.

It is well known how he searched deeper into the natural history of the Bee, and called to his aid the honored Zoologists, Leuckart and Von Siebold. The result of all his scientific researches and practical experiments, he gave to the world in his great work, the second edition of which was published in 1869, by Schneider, in Mannheim, "Die Biene und ihre Zucht mit beweglichen Waben in Gegenden ohne Spatsommertracht." We are not exaggerating, when we call this work an achievement–an event which marked the beginning of the new era, since it is a storehouse containing within itself all the theoretical and practical knowledge of bees gained by past observation. More than this it points the way into those regions from which the vail has not yet been raised.

Is Black Comb Useful?

Black comb, unless it be very old and choked with pollen and filth, is as useful for breedig purposes as any other. For guide combs it is better than any other, as it is tough and will not break away from its fastenings as new comb will. Care should be taken, notwithstanding, to discard all comb from which the Bees of former seasons have not hatched out. Sometimes in old combs some cells may be observed from which the sealing has not been removed, some such cells may have small perforations in them, their crowns being sunken, and their contents dried up; others may still retain the remains of dead brood, but wherever these are seen the comb should be consigned to the melting-pot, for there is danger that the combs are infected with foul brood.—*British Bee Journal.*

For the American Bee Journal.

Novice on Wintering, etc.

Dear Bee Journal: Permit us to thank M. Quinby for his excellent and opportune article on Wintering, and also for the very fair and gentlemanly way in which he expresses it as his opinion that our views of the Bee disease are not wholly correct. If we have not been as respectful in expressing our views of some of the suggestions that he has advanced, and we fear such has been the case, we sincerely crave his pardon. In regard to the unkind way in which some other writers have persisted in treating us and perverting our language, we have nothing to add, more than that we shall never take the trouble to set them right. If the majority of our readers have misunderstood us in that way it is certainly time our regular contributions gave place to something more valuable.

In regard to Bees suffering with dysentery when properly housed, we will mention our own experience, first given in the Journal, Vol. 4. The month of February that Winter was so warm for days together, that we could not reduce the temperature of our cellar below 50°, even by opening the door and windows nights, and every warm spell, it seemed to us then, only aggravated the disease. When we could reduce the temperature to 35°, the Bees became quiet, but nothing else we could do would keep them in their hives at all. A part of them were placed in the cellar in November, but the majority remained out until December. After placing them on their Summer stands, matters seemed no better, for they flew out and kept dying until May. Those who have followed our writings will remember that we have had such colonies every Winter since, more or less; and they have been invariably those that were allowed to have natural stores. Perhaps the Winter of 1869–70 may be considered an exception; for we then wintered every colony and they all had natural stores, which happened to be wholesome, as in years before.

Now in directing attention to those who have lost Bees carefully housed, in cellars, Bee houses, etc., we cannot give a case where these repositories had been warmed by a stove, for we had no record of such an experiment. The principal trouble we apprehend is that Bees will leave the hives, even in the dark, when the room is warmed to 50° or thereabouts. In fact we have always had the most trouble in Wintering during warm spells. Last season we lost quite a number of small nuclei, which died under circumstances that convinced us that some kind of artificial heat might have saved them—*i. e.*, during times of very cold weather, such that the interior of our Bee house showed at times not more than 25°; but at the same time our strong colonies seemed to lose nothing.

After the coldest spell we have had this season, the weather changed suddenly, so quickly in fact, that while the walls, hives, etc., were near 32°, a stream of warm, damp air was pouring in through the ventilator to such an extent that everything was damp. A friend of ours, who has entertained the same opinion as Mr. Q., built a fire in a stove he had provided for the purpose, and raised the temperature quickly to 80° or more, and then let the fire go down before the Bees had time to become aroused. He says the result was quite satisfactory. His Bees, like ours, were confined to the hive with wire cloth. It may be that some such course will enable us to winter Bees safely, on natural stores even; and we shall be pleased if such prove to be the case.

We presume that Mr. Quinby, in speaking of the latter method, has taken into consideration the fact that Clover Honey now sells by the barrel at twenty cents, and that sugar syrup equally thick, costs not over eight cents. If a Bee-keeper had his honey in a barrel, and his colonies needed food, would he hesitate before deciding which to feed?

We would refer Mr. Quinby, to articles found in back numbers of the Journal, to prove that Bees die, even when carefully buried, housed, or put in a cellar. Please see pages 5, 206, 253, 254, 261, Vol. v; 286, Vol. vi; 264, Vol. vii; 34. 92, 93, 248, Vol. viii. We call attention especially to the report of Mr. Johnson, page 248, Vol. viii. Mr J.

informed us in conversation, that he had thoroughly tried warming them in a warm room, etc., etc., but all without avail; and that sealed comb of the same honey given to a healthy colony brought from a distance, *will kill them in one week*, even in April. It is true that all of the above do not point in one direction; but they furnish a large number of facts.

We have at present a colony of Bees in a room kept constantly warmed up to from 50° to 60°. In spite of food, pollen, etc., and a wire-cloth house to fly in, we cannot induce healthy brood-rearing; but the Bees seem to be dying off every day, much faster, indeed, than those in the Bee house at about 40°.—We have had them thus for about three weeks. Although the queen lays eggs, no brood appears. The confinement seems to be very objectionable. They alight on the wire-cloth boundaries of their prison, and many will not voluntarily go back even at night.

Quite a large number of our Bee-keepers, with Mr. Gallup among them, contend strongly in favor of out-door Wintering; and such letters reach us from all directions—facts observed both practically and experimentally. Have you,too,abandoned double walled hives?

It may be proper to say that our remarks in regard to the hive which "Scientific" offered to furnish at 50 cents each, were intended only as pleasantry, and without the least feeling of ill nature. Should "Scientific" not feel inclined to accept the above explanation, we have nothing further to offer. He who will undertake to furnish *good* hives for 50 cents, or even $1.00, will receive our earnest thanks for the good he will do our people, and we think we shall have no trouble in convincing the most incredulous of our sincerity. The hives shall be made to use any of the popular frames—those mentioned on page 266 of last June number, for instance, and the only other condition is, that they be approved of by the editor of the JOURNAL; and, to help the cause, we *will pay for a standing advertisement of the same in this* JOURNAL *one year*, unless some of those who find fault with *our* efforts will come forward and help pay for it, and thus show *their* disinterestedness. It is not "Novice," simply, you are opposing now, but the *cause of Bee-culture*. If you would see hives made to a gauge, like Elgin watches, stand up like a man, or "forever hold your peace." Chicago will perhaps be as central a point as any for the undertaking, and, what is better, will be so far from "Novice" that he can have no hand in it except to pay for an advertisement for the year.

We certainly did not mean to insist that Mr Muth had had no experience with Bee disease, we only conjectured.

Has no one else a word of encouragement for the fair stranger, Cyula Linswik, who has entered our midst? or are our sex all so intent on their own affairs that they cannot spend time to encourage real merit? In our opinion, the writer of those articles, although the information conveyed may not be of great practical value, has a power of delineation and a delicacy of touch, such as has never before, since Mr. Langstroth's book, graced Bee literature. Will both herself and "Sister Nellie" accept the thanks of one who means well, even if his efforts be at times ill-timed, and injudicious.

Mr. O. can certainly take off his box honey quicker than we could extract a like amount; but our honey would be all ready to ship at a low rate of freight by rail, while his would need considerable "fixing" before it could be safely shipped over one hundred miles at a like expense (see Dadant's articles). There is certainly no need that we should defend the cause of extracted honey longer, for attention seems being turned in that direction with a strong current from all sides.

Using cloth instead of perforated tin for feeding has been quite unsatisfactory, for the reason that if thick, it feeds too slowly, and, finally, not at all, after the syrup has dried on them; if the cloth was thin, the Bees gnawed through it, and then ——

We are beset by reverses, as well as encouraged by occasional success. We still hope ultimately to succeed. To those who give us credit for feeling sincere pleasure in all the advances in Apiculture, we subscribe ourself as of old. NOVICE.

Murdering Bees.

QUERY.—I have a straw skep with wooden top, in which my Bees were hived 18 months ago. They threw off a strong swarm last May, and I placed a super over them, containing a large and tempting piece of guide-comb, in which they made not a drop of honey. I took away the super early in September, and since then my Bees have been killing each other, hundreds lying dead under the hive, and I see them fight on the alighting board. The murdered Bees are all small compared with the generality of Bees in my hive, but certainly belong to it. These massacres take place at an interval of a week or ten days, and especially on Sundays. Can I prevent this?

REPLY.—We have had a precisely similar case in our own apiary during the past season. The Bees destroyed, were bred in the hive, but when a few days old were mercilessly massacred. The queen was a pure bred Ligurian, raised in May last, but from the backwardness of the season and the coldness of the weather we judged she had been imperfectly fertilized. Almost all her progeny were very small, had usually only one broad golden band across the abdomen, next the thorax, the remainder being jet black. They were pretty little Bees with sharp pointed tails, quite differently shaped to the ordinary Bees, and were evidently considered useless in hive. Having determined that the fault was with the queen we dethroned her, and gave the stock a fertile imported one, and since then all has been well. Whether the original queen (by stress of weather) became too old ere fertilization took place, or whether she met an imperfect drone, perhaps one of the progeny of a fertile worker which are said to be imperfectly developed we cannot say, but judging from our own case we think it probable your Bees will perish during the ensuing winter months unless you remove their present queen, and give them one whose progeny will be perfectly normal.—*British Bee Journal.*

In the Island of Madagascar, and the Mauritius Islands, a species of Bee is found (*Apis unicolor*) of a bright shining black, without spots or colored bands. The honey, which is highly spoken of, is at first of a green shade, but becomes reddish-yellow with age.

Plants and Trees.

BEE AGENCY NECESSARY TO FRUITFULNESS AMONG PLANTS, AND THE SORT OF TREES BEST FOR ORNAMENTAL PLANTING.

The name "honey," is said to be derived from a Hebrew word signifying delight. Whether or not this derivation is correct I cannot say, as I am no Hebrew scholar, but it seems very appropriate, as there is scarcely another word which has been so universally employed from the remotest ages, to represent what is delightful to the senses and as a figure of what gratifies the mental and moral perceptions. For this reason, amongst others, the labors and mysteries of the Bee-hive have been a source of profit and recreation to mankind in all ranks of life, as well as a fruitful fund of figures and illustrations to adorn the writings of poets and philosophers. Hence people can offer few truer forms of evidence of real sympathy with the most elevated and refined in past ages, than in the interest they take in this branch of rural industry. But aside from any interest in Bees as honey gatherers and waxmakers, there is another matter as important as this, arising from the service which Bees perform in the economy of nature in the fertilization of plants. All stock raisers understand well the importance of crosses in breeding. But few people are aware that the same principle holds good in the fertilization of fruit and flower blossoms. Which is to say, that though in the majority of plants the blossoms are perfect, each one containing the pollen necessary to fertilize the ovules, yet it is well known to botanists and horticulturists, that the pollen of one flower has a great deal more fructifying power on the ovules of another flower of its kind than upon its own, this causing the first to set better and adding to at least its quantity. Mr. Charles Darwin, Professor A Gray, and other eminent botanists have proved that many flowers in which the stigmas may be easily dusted with their own pollen, remain sterile unless they receive pollen from other flowers. This cross fertilization is effected through the agency of Bees and other insects. All of which may be

easily demonstrated by covering some flowers with thin gauze, admitting light and air freely, but excluding the Bees, and letting others remain exposed for them to work on.

And it is a significant fact in this connection, that naturalists have never, thus far, been able to discover that the nectar or honey deposited about the ovaries of flowers is of any use whatever to them, except to attract the Bees and other insects; seeming to show that this is a wise provision of the Creator to secure fertilization. But I propose to discuss this matter more at length in a future article, in which I will attempt to clear the Bees of the charge of being destructive to fruit and grapes. I desire here merely to point out that the Bee-keeping interest, like every genuine industry, harmonizes with and promotes other industrial pursuits; and that a wise regard for the common good is manifested by consulting the wants of the Bees in selecting flowers, shrubs and trees to shade the streets, and beautify public and private grounds. Especially as this costs no more, and it greatly enhances the primary objects of setting out the trees by giving the variety which is essential to beauty. Now it so happens, that of the trees which are not evergreens, those which afford the richest pasturage for Bees are the handsomest and most valuable for ornamentation.

A certain proportion of locusts and maples would be well enough, but they have been set along every street and in almost every lot, till they are so common that they cease to please. How much the appearance may be improved can be seen on a few places about this city, whose owners years ago had the good taste to intersperse with these a variety of other trees less common and more beautiful. If one-half the locusts in and around Lexington were replaced by lindens and yellow poplars, the city would present a much more attractive appearance, and the Bees would have a better range for gathering honey.

The best districts for Bees are those from which the timber has not been removed. The yield of honey in the mountainous parts of Kentucky is much more certain and abundant than in the Blue Grass Region, where white clover abounds, which has generally been supposed to be one of the best honey plants, but which has proved of late years unreliable. The reason probably is, that trees being mostly deep rooted and shading the ground are not so much effected by drought as small plants. The linden or basswood, as it is called in the north, is so highly prized for its abundant yield of honey, that many Bee-keepers are planting orchards of it for their Bees. Mr. Furman of Iowa states that he has known a single stock of Bees to gather fifteen pounds of honey in a day from basswood blossoms. Mr. Hosmer of Minnesota, says that one of his stocks gathered fifty-three pounds. Mr. Cogshala of New York, says that his Bees gathered six barrels of honey from basswood in the time that it took the same Bees to gather one barrel from white clover, and that the basswood honey was better in quality. The yellow poplar yields as much honey as the linden, but the quality of the honey is not quite so good. Other trees might be mentioned of smaller growth than the above, but scarcely less value either for honey or ornament, as the sourwood and serviceberry. But those who care to give the matter any attention can easily learn what kinds to select, and to the consideration of all such I respectfully commend the subject.—*D. Burbank, in Farmers' Home Journal.*

A Plant Destructive to Bees.—The large-podded milk weed, almost invariably causes the death of every Bee alighting upon it. The Bee either adheres to the plant or else bears away a small scale sticking to its feet, and cripples itself fatally in attempting to remove the annoyance. — *Agricultural Report.*

"He may be regarded as a master in Bee-culture who knows how to winter his stock in a healthy condition, with the least loss of Bees, the smallest consumption of stores, and with the combs unsoiled."—*Ex.*

The cross of the Italian drone and black queen is preferable to the other cross.

American Bee Journal.

W. F. CLARKE, EDITOR.

CHICAGO, FEBRUARY, 1874.

Bee-keepers' Meetings.

The importance of association, when there are common objects to carry out, is readily conceded by all intelligent people. The value of consultation about matters, in regard to which there is room for difference of opinion and practice, is also generally admitted. Our business interests are represented and protected by Boards of Trade. We have Agricultural Societies, Farmers' Clubs, and Granges, to look after the great foundation industry. Conventions and meetings, almost without number, are held to advance the multifarious enterprises, which have been set on foot by the active mind of man. No sensible individual undertakes to carry out, solitary and alone, the ends he is aiming to accomplish, when there are others, equally anxious to succeed in the same direction, with whom he can consult and co-operate.

One would suppose that very little reflection or argument would suffice to convince Bee-keepers that their interests call for organization and association. Yet it seems more difficult to bring them together for united counsel and action, than almost any other class of people who have interests in common. The patent hive business is no doubt largely responsible for this. It has introduced and fostered an Ishmaelitish spirit among Bee-keepers. Apiculture has come to be regarded, not as a peaceful field where all might work harmoniously, and reap a harvest of sweetness, but rather as a hunting ground, where prey is to be chased and spoil secured. We are glad to know that this state of things is passing away, and that a better day is manifestly coming, in which the clashing of pecuniary interests and antagonistic aims shall no longer operate to keep apiarians asunder. Already some progress has been made in the establishment of organizations, and the holding of meetings, but it is only a few of the great host of Bee-keepers who have allied themselves together, and met as "friends in council" for the advancement of apiculture. Indifference has, no doubt, had quite as much to do in keeping Bee-men apart, as business rivalry. It is remarkable how apathetic some are, even when their own advantage is manifestly involved. We do not believe that any thoughtful attendant at a Bee meeting, where experienced apiarians gave their views freely and fully, ever went away without feeling that the cost of coming was a mere bagatelle, compared with the benefit obtained. A single wise suggestion may turn the scale of a year's operations of the apiary, from loss to profit. Questions may be asked, and answered, to which no Bee-book furnishes a reply. The mind may obtain a clue, or be put upon a track, the results of which will be highly valuable. A Bee meeting is a school for beginners, and a college for those more advanced. We can help on the cause of apiculture on such an occasion, both by imparting what we know to others less informed than ourselves, and by sitting at the feet of apiarian doctors who have far outstripped us. There is moreover, the pleasure and profit connected with making the personal acquaintance of fellow-Bee-keepers, especially those of note, whose writings we have read with interest, and whom it is a great satisfaction to meet face to face, and

think of afterwards, as no longer strangers, but friends. Yet notwithstanding these and other obvious advantages of association, how difficult it is to obtain a large membership, or to secure a full attendance. How rarely do we read in the reports of these meetings, that they were unanimously attended, or marked by any enthusiasm. Even the National Society has never made such a muster as might reasonably have been expected at its annual sessions. Yet, if *all* had been imbued with the earnestness of *some*,—if every one had come who could as well have done so as those actually present, there would have been no cause of complaint, but rather abundant reason for jubilation. We regret to learn that the Louisville meeting was thinly attended, owing to a variety of unfavorable circumstances, but we hope this will not discourage those who from the beginning have had faith in the society, and have shown their faith by their works. Let every officer and member resolve, that the next meeting shall be the best ever held, and do all in their power to make it such. The place of meeting is conveniently central, and we have no doubt the Pennsylvania Bee men, with President Hoagland at their head, will spare no pains to make the needful preparations to secure travelling, hotel and hall accommodation, so that if there is only a grand rally from East, West, North and South, the Pittsburgh meeting of 1874 will far outstrip its predecessors.

There are other and local gatherings which ought to be well sustained. The Northeastern and several State associations, have yet to meet. Let there be an extra effort on the part of Bee-keepers to attend them. Do not grudge a little time or money. The outlay will pay *you* well, and be of service to others. This matter should be viewed not in the light of inclination merely, but as a *duty*. Ease and comfort would perhaps dictate staying beside one's warm and cozy fireside, but if duty calls elsewhere, it is ours to obey the summons, in the assurance that the highest happiness comes in the train of doing right.

Too much stress cannot be laid on the importance of getting up and vigorously sustaining neighborhood meetings in all those localities where Bees are kept by a number of parties. Even if they are attended only by a few, they will result in much good. We do not know of a pleasanter or better method of promoting apiculture than by holding a weekly or fortnightly meeting from house to house around the little neighborhood of Bee-keepers. A case in point occurs to our recollection. It is that of three Bee-keepers who have for several years been in the habit of meeting in this way. They discuss each others' methods and experiences, read and criticize apicultural publications, and concoct questions, answers and articles for the Bee journals. It need hardly be said, that they are a most intelligent trio of Bee-keepers, and that it is a high treat to spend an evening in their company. We could wish to see their example followed wherever an association even as modestly small as theirs, can be formed and worked.

In our hurry, getting out the January Number of the AMERICAN BEE JOURNAL, several annoying errors occurred. We hope to have less of them in the future. A few corrections are important. On page 7, second line of article on "Feeding," for "keeping," read "feeding." Seventh line from top of second column, for "open," read "only window." In the third line, for "hives," read "sources."

E. Kretchmer & Co.'s Price List of Bee-Keepers' supplies is on our table. It contains 24 pages, and will be sent free to any one desiring it. Address E. Kretchmer & Co., Coburg, Iowa.

Voices from among the Hives.

J. L. Davis, of Holt, Ingham Co., Mich., says:—"I write this in response to Adair's observation, that the clipping of a queen's wings is an injury. Some years ago, I obtained a swarm of Bees from the woods. Brought it home in the log, just as it was found; after sawing off pieces at both ends, we set the log up in our yard for a hive. The Bees swarmed in June; after alighting, I saw the queen and caught her by the wings, and called for scissors; before they came, however, she turned around so many times, that the wings came out by the roots. I supposed this would kill her, but she lived until her sixth year, to my certain knowledge (she might have been older). Her hive swarmed once every year, and sometimes twice. I could always recognize her by her peculiar appearance, and so kept track of her. I have clipped hundreds of queen's wings since, and never thought that it gave them pain, or injured their usefulness. In clipping queen's wings, have the comb on which she is hanging up before you with the queen in sight; with the left hand take hold of her left wing as she is crawling upward; hold on just hard enough to make her grasp the comb; then with the scissors clip about half of the large wing off. In doing this keep the breath from the Bees, work slowly and carefully, and you will be satisfied."

S. Scott, of College Hill, O., writes:—"Our season thus far is termed an open Winter. The weather report for December stands as follows: Rain, 6¼ inches; snow, 1¼; clear days, 1; average temperature, 36 degrees; lowest temperature, 10 degrees, morning of 30th. In our vicinity, as far as I have learned, Bees are wintering well with those who give them care and attention. The past season was a good one for honey, both in quality and quantity. Two swarms that issued on the 5th of June gave a surplus of twenty-one and thirty-two pounds respectively, of pure comb honey, besides their homesteads full remaining untouched on the last of July. Though black Bees do well when flowers are abundant, my preference is for the Italians. We read sometimes of moth-proof hives, but it takes a strong colony of Bees to keep a good hive moth-proof. The plan of putting split elders under hives for the worms to crawl under, is an old one; but if destroytng the worms is not attended to daily, the elder will prove a hot-bed for the propagation of the insect. It is far better to spend the time in encouraging the little wren by building small boxes, four by five inches square, with inch auger holes for entrances. Their keen eyes are ever on the alert for worms and insects, of which they consume a great many daily. I think it is also a good plan to have young turkeys as well as ducks near the Apiary. They can be seen early and late among the hives watching for millers. I consider them of great value to those keeping Bees."

J. F. Montgomery, of Lincoln, Tenn., writes:—"Last year Bees did but little in the way of storing surplus honey, though after the main season was over, they stored honey enough to last them through the Winter. I have now thirty-eight colonies, all in good condition except one, which has a young queen reared after the drones were all killed. On 3d of this month, Jan., I put out rye flour, and in less than an hour they were swarming around it by hundreds. I am intending to move my Bees this year a distance of ten miles, to where there is an abundance of linn. I think I can make it pay me. If I do, I will report after the season is over. I use Murphy's honey extractor, which I like better than any other I have seen."

N. M. Carpenter, of Ellington, N. Y., writes:—Although the past two Winters have nearly cleaned out my Bees, my enthusiasm has not abated in the least, nor can I get along without the old American Bee Journal. All through this section of country, nine-tenths of the Bees died last Winter. But the past season has been a good one, and the business is rapidly renewing again, and with a few favorable years will be as prosperous as ever. No theory which I have ever seen offered in any of the Bee journals in relation to the late mortality among Bees is at all satisfactory to me; nor will I at this time attempt to offer any of my own, although I feel quite confident that I could go into Winter quarters with forty-eight swarms, and come out with more than one, which was my experience last Winter."

W. H. TENANT, of Eureka, Wis., writes:—"I wintered thirty-six swarms of Bees without any loss. I increased them to seventy swarms, and sold a little over $400 worth of Honey Bees. At this date they appear to be in a healthy condition. Success to the AMERICAN BEE JOURNAL and all its subscribers."

ELI COBLE, of Cornersville, Tenn., writes:—"Bee-keeping is in a very backward state in this section of country. The Frame Hive has not been used here more than two years, though I believe, taking everything into consideration, we have as good a locality for Bee-keeping as there is in the United States. We Winter on their Summer stands, the hive remaining as it does during the honey harvest. Our Bees are Wintering finely, so far as we can judge by inspecting them. I have ninety colonies that I expect to come through all right, unless some accident happens. Our Bees Wintered well last Winter, and so far this Winter has been nothing to compare with the last, for cold weather. I wish the AMERICAN BEE JOURNAL success."

R. B. PRICE, of Delphi, O., writes:—"My little girl was stung on the bottom of her foot by two Bees, producing the usual symptoms. We first saw a red streak where one of the Bees had stung her, which soon spread until she became a brilliant scarlet, from head to foot. She looked as though she would have convulsions, and having a pitcher of ice water upon the table I bathed her head, which gave her temporary relief; whenever such symptoms appeared I applied the ice water I also gave her a dose of whisky. For several hours afterwards she had fever and thirst. My Bees are Wintering well so far; I am trying friend Muth's plan, and like it well, as it keeps the combs dry and Bees comfortable."

GEORGE O. TOMPKINS, of White Plains, N. Y., writes:—"The January number of the AMERICAN BEE JOURNAL has come to hand. Its new dress makes a very neat appearance, and I hope it may give better satisfaction than ever in the hands of its new manager."

AARON A. TRULLINGER, of Lake City, Ia., writes:—"My Bees Wintered well last Winter. I kept them up in my chamber. I am trying the cellar this Winter. I doubled my stocks last Summer, and got forty pounds of box honey, per hive. My Bees went into Winter quarters in good order."

S. HOAGLAND, of Mercer County, Pa., says that "Our Bees are Wintering finely up to date."

MRS. R— would like to enquire of any one who knows, whether Santa Clara, California, is a good locality for Bees.

"A LADY" wishes to ask "Novice" the following question, viz: "In seasons when honey, the natural food of the Bee, becomes so impure as to poison the Bees, is it not also unfit for table use?"

H. M. NOBLE, of Mount Pleasant, Iowa, writes:—"I have had very poor luck with Bees for the last three Winters. In 1870 and 1871, I lost twelve out of thirty-five swarms. In 1872 and 1872, I lost twenty-two out of forty swarms. In 1872 and 1873, I lost twenty-nine out of thirty two swarms. This left me with three swarms last Spring, and those very weak. I increased them to thirteen, and got three boxes of honey and one and a half gallon of extracted honey, and have now got them in a cave where they will not be likely to freeze, though they may die some other way."

C. L. YOUNG, of Ohio, writes:—"From circumstances connected with my Bees, I have good reason to believe that some of them have lived more than two years. According to my opinion, Mr. Quinby is the nearest right, in his opinion as to the cause of the much talked of Bee disease."

JOHN BARFOOT, Wellsville, Mo., writes:—"Last season was a disastrous one for Bee keepers—Bees scarcely sustaining themselves. There was but little surplus honey. The strong probability now is, that nearly all old hives will winter over, the Winter so far being mild and wet."

W. F. STANDEFER, Dry Grove, Mississippi, writes:—"Our County Bee-Keepers' Society meets again on the first Saturday in February, and will, hereafter, hold Quarterly meetings."

Our Correspondents will oblige by writing with ink. Pencil writing, after being rubbed in the mails, &c., becomes indistinct, and our compositors find it difficult to read.

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

RATES OF ADVERTISING.

SOLID NONPAREIL MEASURE.

First insertion, per line	$0.20
Each subsequent insertion, per line	15
One square, 10 lines or less, first insertion	2.00
Editorial Notices, solid Nonpareil, per line	.30

Next page to Business Department and second and last page of cover, double rates.

A deduction of 20 per cent. made on advertisements inserted three months. 30 per cent. for six months, and 50 per cent. for one year.

Twelve lines of solid Nonpareil occupy one inch One column contains 96 lines of solid Nonpareil.

Bills of regular Advertisers payable quarterly, if inserted three months or more. If inserted for less than three months, payable monthly. Transient advertisements, cash in advance. We adhere strictly to our printed rates.

Address all communications and remittances to the Manager.

Honey Markets.

CHICAGO.—Choice white comb honey, 28@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c. Strained 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16 cts. ℔ lb. Choice extracted honey 16@18 cts. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted, Choice white clover, 16@18c; choice basswood honey, 14@16c; fair to good, extracted, 8@12c; Strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenpoint L. I.

The sale of honey is dull here, and a large quantity is now upon the market. The prices rule as follows:

White honey in small glass boxes, 25c; dark 15@20c; Strained honey 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

The "National Bee Journal," published at Des Moines, Iowa, by Mrs. Ellen S. Tupper, is on our table. The January number is a good one. We have made arrangements to club the "National," with the old and reliable AMERICAN BEE JOURNAL, for $3.00 a year, in advance,—thus saving our subscribers $1.00.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

New Advertisements.

Our fresh announcements this month are numerous. Our subscribers will be interested as well as remunerated by reading all our advertisements over carefully.

E. J. Worst announces his reduced prices for Italian Queens for 1874, and also Premium Poultry Eggs.

Jas. J. H. Gregory's Catalogue of Vegetable and Flower Seeds is splendidly illustrated; and will be sent to all desiring it, free of cost.

The firm of Baldwin Brothers has been dissolved. L. W. Baldwin is breeding Queens, and quotes prices.

E. W. Hale is ready for an engagement to take charge of an apiary.

Wm. W. Cary invites every reader of the AMERICAN BEE JOURNAL to send for his circular of prices for pure-bred Queens.

Mrs. Tupper calls attention to her late purchase of the "National Bee Journal," and would not refuse subscriptions accompanied with the cash.

THE ILLUSTRATED JOURNAL, with its magnificent chromo, is announced; also its club rates with the AMERICAN BEE JOURNAL.

Nevins' Straw Mats are now on the market, and may be obtained of Charles F. Muth.

D. A. Pike has Italian Bees and Italian Queens for sale.

C. F. Muth's new announcements are: "Clover Seed," "Honey Plants" and "Honey Jars," with new price list.

An illustrated annual, entitled "The Busy Bee," is announced at 10 cents.

Dr. J. P. H. Brown mentions his importation and breeding of Italian Queens.

The Western Agriculturist is published at $1 a year, and gives a Chromo entitled "The "Sheperdess."

J. W. Winder has just finished his "New Honey Extractor," and promises to lay it before the readers of the AMERICAN BEE JOURNAL in the March number.

Adam Grimm offers to sell 400 colonies of Italian Bees, and quotes prices.

S. W. Cole will supply full colonies of Italian Bees and Queens, &c., &c.

J. E. Moore invites you to send for his circular giving directions for introducing Queens, &c.

J. H. Stevens will buy honey in St. Louis, and invites consignments.

HEYES' LINCERIN.—Having used this article in our family for years, we can confidently recommend it. See advertisement.

We want a few copies of the July and December Numbers of the AMERICAN BEE JOURNAL for 1873, and will pay twenty-five cents each for them.

To Those Interested in Bee Culture.

At the sixth annual meeting of the Michigan Bee-Keepers' Association, it was decided to hold a special meeting at Kalamazoo, to commence Wednesday, May 6, 1874. It is especially desired that all members be present, and, in behalf of the Association, we urge every Bee-keeper in Michigan to attend. A cordial invitation is also extended to all persons interested in the science of Bee-culture whether residing in this or other States. Surely much good may be derived from a comparison of experiences next Spring, and from the able papers that will then be presented. Timely notice will be given of all further arrangements. Address communications or inquiries concerning the subject to

FRANK BENTON, *Sec'y.*

Shelby, Oceana Co., Mich.

Newspaper Decisions.

1. Any person who takes a paper regularly from the post-office—whether directed to his name or another's, or whether he has subscribed or not—is responsible for the payment.

2. If any person orders his paper discontinued, he must pay all arrearages, or the publisher may cantinue to send it, until payment is made,and collect the whole amount—whether the paper is taken from the office or not.

3. The courts have decided that refusing to take newspapers and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

Clubbing Bee Journals.

Several of our subscribers have requested us to say what we will club with other Bee publications for. We therefore quote the following:

The AMERICAN BEE JOURNAL and the "National Bee Journal," by Mrs. Tupper, for $3.00 a year in advance.

The AMERICAN BEE JOURNAL and either "The Bee-keepers Magazine," or the "Agriculturist," by H. A. King, for $2,50.

The AMERICAN BEE JOURNAL and "Novice's Gleanings," for $2.50.

The AMERICAN BEE JOURNAL and the "National," the "Magazine," and "Gleanings," for $4.00 in advance.

All the above one year, $5.00.

Any of the above and the "Illustrated Journal," and our magnificent Large Fruit Chromo, for $2.00, in addition to the RETAIL price of the Bee publication selected.

Publishers needing cuts or engravings, will do well to address the Manager of the American Publishing Company, who have a large supply for sale that have appeared in "The Illustrated Journal."

Should any subscriber wish to discontinue taking our JOURNAL, he should address a letter to the Manager, and enclose the amount due, and it will then cease to visit him. Any other course is dishonorable.

NEWLY PATENTED HIVES. — Three Bee Hives have lately been patented. Wm. S. Hough, Canada; Leonidas Adams, Mason City, Ills.; and Leander J. Diehl, Butler, Ind. are the patentees.

After February 1, 1874, we shall mail a Printed Receipt to every one sending money to this office. Those who do not get such Receipt by return mail, should notify us, that we may ascertain the cause of delay.

To new subscribers, we will send the AMERICAN BEE JOURNAL for three months for 25 cents, on trial. Now is the time to send in hundreds of such trial subscribers. Who wants to TRY IT?

Any one having paid $2.00 for the AMERICAN BEE JOURNAL for 1874, and desiring to obtain the "Illustrated Journal," for 1874, and our magnificent Fruit Chromo, may send us $1.50 more and obtain them.

We shall, hereafter, publish a Honey Market Report each month, so that Bee-keepers will know how honey is selling, not only in Chicago, but in St. Louis, Cincinnati, San Francisco, and New York. We shall do our utmost to make the JOURNAL in all respects an organ for Bee-keepers throughout the Union. We shall take pains to ascertain who is responsible, so that none shall be wronged out of their dues.

The "Home Grange" is published at St. Louis in the interest of farmers. It contains also profitable miscellaneous reading for the fireside. It is issued monthly, at the low price of $1.50 a year.

Wilson's Herald of Health is issued monthly by the Southern Publishing Co., of Atlanta, Ga. Besides being a periodical devoted to the science of health, it has a department of Agriculture and Domestic Economy. It is the only popular work of the kind published south of New York. Its terms are $2.00 a year.

Eight cents is now the fee for registered letters—instead of fifteen cents, as heretofore. Let all register, who cannot obtain a money order, but let none register who can.

Those who are owing for advertisements for the past year are requested to send the money to this office without delay, as we are closing up the old books.

Single Copies of the AMERICAN BEE JOURNAL are worth 20 cents each.

Not one letter in ten thousand is lost by mail, if rightly directed.

Additional names to a club already formed may be sent at any time at the same club rate.

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

Subscribers wishing to change their post-office address, should mention their *old* address, as well as the one to which they wish it changed.

JOURNALS are forwarded until an explicit order is received by the publishers for the discontinuance, and until payment of all arrearages is made as required by law.

When a subscriber sends money in payment for the AMERICAN BEE JOURNAL, he should state to what time he thinks it pays, so that we can compare it with our books, and thus prevent mistakes.

Persons writing to this office should either write their name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

Every subscriber is requested to look at the date after his name on the wrapper label of this *Number* of the AMERICAN BEE JOURNAL, and if it is not correct send a postal card to this office, and tell us and we will make it right at *once*.

The postage on this paper is only twelve cents a year, if paid quarterly or yearly in advance at the post-office where received. We prepay postage to Canada, and require twelve cents extra, except when Canada money is sent.

We have received four chromos from H. A. King, of New York, which he offers as premiums to subscribers for his *Bee Magazine* and *National Agriculturist*. They are: The Flowers of Paradise, The Cross, a Landscape Scene on the Rhine, and a Revolutionary Scene. The chromos are very fine indeed, and will satisfy all who get them. They are large and well executed.

THE MILLENARIAN.

The MILLENARIAN advocates the personal return of Christ to our earth, his literal reign over Israel and the nations, the resurrection of the holy dead at the commencement of the Millenium, and their reign with Christ during the Millenial day and beyond. It also advocates the necessity of a life of trust and obedience in order to a participation in that kingdom which shall stand forever. The literal fulfillment of Prophecy, and the signs which foreshadow the nearness and certainty of His coming who is the Desire of Nations are also specially examined.

TERMS: $1.00 per year, in advance. Single Copies 10 cents. Address all orders to,

H. V. REED,
No. 27. Tribune Building, Chicago.

Advertisements for THE AMERICAN BEE JOURNAL must reach the office by the 25th. of the month, in order to insure insertion in the succeeding number.

NEW ADVERTISEMENTS.

NOTICE TO ALL !

CUTS and descriptions of a New Honey Extractor, made entirely different, and warranted superior to all will appear in March Number of the AMERICAN BEE JOURNAL. Our 24 page Illustrated Circular and Apiarian-supply Price List for 1874 is now ready, with the **New Honey Extractor.** It will be forwarded to any address on receipt of a three cent stamp.

Address, J. W. WINDER, Importer and Breeder of Italian Queen Bees.

feb74m1 132 Fourth st. Cincinnati, O.

RAPE AND RAPP.

WE herewith tender our thanks to Bee-Keepers for past favors, and are again ready to furnish Rape and Rapp, at 35 cents per pound. Three pounds sow an acre. Shall have a pamphlet ready by March 1st. treating on its culture, with other interesting matter, which will be sent FREE, to those ordering 3 lbs; To all others, 10 cents. Address,

feb74m4 KRUSCHKE BROS., Berlin, Wis.

SALE OF 400 COLONIES
OF
ITALIAN HONEY BEES

HAVING accepted the office of cashier of the Farmers and Merchants Bank of Jefferson, lately organized in this place, I will be unable to care for all the 850 Stocks of Honey Bees I have now on hand. I will therefore

Sell 400 of Them.

These Bees are all pure Italians, and will be sold at the following prices:

Single colonies, or in small numbers....$13.00
Ten to Twenty colonies, per colony,.... 12.00
Twenty, or more " " 11.50

These Bees will be delivered free of charge at the express station in Jefferson, and safe arrival at the nearest express station of the purchaser guaranteed.

Each of these stocks is in an eight frame Langstroth movable comb hive, in good condition, and with honey enough to last them to May 15, or longer.

TERMS : Cash in advance.

ADAM GRIMM,
feb74m3 Jefferson, Wis.

1865—1874.

THE HONEY HOUSE

C. O. PERRINE,

Corner Lake and Market Sts.,

CHICAGO.

☞ Be not deceived by imitations. ☜

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CHICAGO, MARCH, 1874. No. 3.

Central Iowa Bee-Keepers' Association.

Cedar Rapids, Iowa, Jan. 21, 1874.

The third annual meeting of this association, was called to order by D. W. Thayer, of Vinton, its President, and the following officers were elected by ballot:

D. W. Thayer, Vinton, President.

D. E. Blakeslee, Anamosa, 1st Vice-President.

Thos. Hare, Marion, 2nd Vice-President.

J. M. May, Cedar Rapids, Secretary and Treasurer.

W. H. Furman, Cedar Rapids, Asst. Secretary.

On motion of J. M. May, the following resolution was unanimously adopted:

Resolved, that the thanks of this Association are hereby tendered to Dr. A. B. Mason, of Waterloo, for his interest in its prosperity, and for his faithfulness as its Secretary; also that we learn with deep and sincere regret of his loss by fire, and tender to him our sympathy; also, that this resolution be recorded in the minutes of this Association and a copy sent to Dr. Mason.

The President appointed Messrs. Blakeslee, Furman, and Newcomb, to prepare subjects for discussion during the sessions of this meeting.

During the absence of the Committee, Dr. J. Oren of Laporte city, raised the question as to the condition the hive of bees is left in when the honey extractor has been used.

Mr. Furman stated that he had used the extractor three years and found it advantageous —could make more profit from honey extracted from the comb than by box honey, though sold at less price per lb., and when properly used, the brood-comb was unimpaired and the stock of bees would be quite as vigorous as those when the extractor was not used.

Dr. Oren thought when the extractor was used the best honey was thrown from the comb, and as the bees had only lately made poor honey, he thought that was one cause of the losses of bees in 1873.

Dr. Blakeslee and Mr. Hunt expressed the opinion that it made no difference whether or not the extractor was used.

Mr. Hare claimed that the loss of bees in 1872 and 1873 was due to the very cold winter, and unfavorable spring.

Mr. Hunt recommended a "clamp" as the means of securing the safety of bees.

In answer to an inquiry, the President explained that a *clamp* means an excavation in the ground about 8 or 10 feet square, across the top of which is placed timbers. On the timbers hives are placed in a pyramid form with a space, like a chimney, in the center for ventilation, communicating from the excavation, to the air at the top of the pyramid. On this pyramid, poles, scantling or boards are placed in a roof form, and on this a coating of straw 4 to 6 inches, and on the straw about 8 inches of earth is placed to make a roof.

The President gave his experience of wintering bees in cellars well ventilated. He spoke also of his uniform success in the use of the extractor.

Dr. Oren qualified his previous remarks on the extractor, by saying that he was not wholly opposed to it, though he did not use it.

Convention adjourned until 9 o'clock the following day.

SECOND DAY.

The President in the chair. The Secretary read a letter from Mrs. Tupper of the *National Bee Journal* stating that she would be unable to lecture before the Convention as announced, on account of a failure of the trains to make connection. Her communication contained the suggestion that the Central and State Societies consolidate, also an invitation to the Association to hold its next meeting at Des Moines. Ordered placed on file for further consideration.

The business committee reported the following questions for discussion:

1. What are the benefits of the honey extractor in the apiary?
2. What is the test of pure honey?
3. What benefits are derived from feeding bees in autumn?
4. Is the Italian superior to the native or common bee?
5. What is the best method of dividing swarms with a view to increasing the stocks? and is it desirable to divide them?

6. Will upward ventilation in the cellar or room where bees are wintered prevent dampness and disease?

7. What is the best forage for bees?

The *first* of these questions had been quite thoroughly discussed in the absence of the committee—but in addition, Dr. Blakeslee stated it as his opinion that if properly used the product of the apiary would be doubled, and agreed with Mr. Thurman that honey could be afforded at less price than box honey and yet the aggregate profit would be greater. Mr. Hare stated that some purchasers thought it was a spurious article because separated from the comb by a new and novel process, and the public mind needs to be disabused on this point. Further discussion showed a large preponderance of opinion in favor of the extractor when properly used.

The *second* question was briefly discussed. Dr. Oren said that a chemical test was the true one, while the President, Mr. Thurman, Mr. Hare and others believed that the experience of most persons would enable them to determine the matter, especially when considering the fact that the globules of the pure article were unlike the spurious. The pure would keep longer and not become candied, and the taste would also indicate the difference. By bringing pure honey to a boiling heat and allowing it to cool gradually, it may be kept years in a liquid state without injury.

On the *third* question the opinion was quite general that the swarms should be allowed a liberal supply of pure honey, and small, late and weak stocks should be fed in the autumn or incorporated with strong swarms.

The *fourth* question was warmly discussed. Dr. Oren said he could not respect the Italian bee as he once did, and yet he liked them very well. Messrs. Thurman, Hunt, Goodhue, Hare, Pierce, Thomas, Tangman, Newcomb, Porter, of Illinois, and others, were generally agreed in their praise of the Italian bee.

On the *fifth* question each had his own peculiar method for dividing and hiving swarms, all agreeing that the honey-bee, of whatever nativity, knew how to sting.

The *sixth* question elicited a full discussion as it involved the vital points in relation to the great loss of bees in the winter of 1872–3, and in the spring following—many losing their entire stocks, and others nearly all. The cellar, the *clamp*, burying them, allowing them to remain on the stands as in the summer and covering them with blankets, were severally considered. The concurrent opinion was, however, that in any case, a dry, pure atmosphere and a warmth or temperature of 30 to 50 degrees and uniform as near as practicable, should be maintained to secure safety and freedom from disease. Freezing and dampness should never be allowed. The severity of the winter of 1872–3, followed by a backward, wet spring made very indifferent forage for those that survived the winter, and want of experience in giving proper care, contributed to superinduce disease and the heavy or total losses. Still, those who observed the most approved care and caution hitherto used by the apiarian, suffered heavy losses, indicating that much is to be learned, and that thorough search into the cause of the disaster should be made, and remedies sought; also, that special encouragements, legislative or otherwise, should be afforded those who, in the face of discouragements, dilligently pursue a research that promises so much wealth to the State.

The *seventh* question was considered at some length. Linn and Alsike clover were highly appreciated. Mr. Hare, also Mr. Furman, said they had raised this clover for bee pasturage and were much pleased with it. It should be sown early, on well prepared ground—even on snow if the land had been thoroughly prepared in the preceding fall, and a hay crop, as well as honey, would be the result. Great care should be observed in selecting seed, lest sorrel (a bane to the farmer) should be mixed with it.

Convention adjourned until the following day, at 9½ o'clock.

THIRD DAY.

Convention called to order by the President. The question whether or not bees were taxable property was raised by Mr. Goodhue and discussed generally by the members of the Convention, when the Secretary offered as a means of solving the question the following

MEMORIAL.

To the General Assembly of the State of Iowa, in Senate and House of Representatives assembled:

Your petitioners, citizens of the State of Iowa, respectfully call your attention to the following considerations:—*First*, That Iowa has, until 1873, been deemed one of the best bee raising and honey producing States in the Union—its trees and flowers furnishing, in the language of apiarians, abundance of bee pasturage. *Second*, That in the winter of 1872–3, and in the spring following, about *five-sixths* of the swarms of bees in the State perished by disease. *Third*, that many persons have become discouraged, and have abandoned, or propose to abandon, the business, preferring to do so than to be taxed on so precarious a business. *Fourth*, That the native riches, in honey, of the tree and flower blossoms referred to, will remain undeveloped and valueless, unless the gathering and utilizing of this dormant wealth is in some way fostered and encouraged; and as the State may advance its material interests by encouraging those now engaged in apiculture and inducing others to do so, and as no injury can arise to the State or its revenues, but ex-

actly the reverse, we ask for the enactment of a law exempting from taxation, and from levy and sale on execution, honey-bees and their products until the year 1880. And your petitioners as in duty bound, will ever pray.

The above memorial was unanimously adopted as the petition of the Convention, and was ordered to be signed by the President and Secretary, and forwarded to Senator Kephart of Linn County, with a request that he will aid in procuring the passage of the law prayed for.

On motion, citizens, associations and societies similar to our own, favorable to the object, are requested to join us in our efforts to procure the enactment of the law desired.

After the customary vote of thanks was passed, the Convention adjourned to meet on the third Wednesday in January 1875, at Cedar Rapids.

D. W. Thayer, *Pres.*

J. M. May, *Sec'y.*

For the American Bee Journal.

Our Afflictions.

Not always is the bee-keeper's path strewn with clover-blossoms—

"Roses. Cyula! you mean roses," interposes Nellie, looking over my shoulder with a critic's eye.

No, indeed! What bee-keeper, worthy of the name, would exchange clover-blossoms for roses? Moreover, the phrase is more truly descriptive, besides being considerably less shop-worn."

Not always is the bee-keepers' path strewn with clover-blossoms, nor always to his eager lips may the honeyed draught of success—

"Which is his *mead?*" queries Nellie.

Putting down my pen, with mild severity I speak: "My dear, if you have any *sensible* suggestions to offer"—

A succession of brisk, snapping sounds accompanied by an odor as of burning coffee, creates a diversion which enables Nellie to make a not altogether inglorious retreat to the kitchen.

Resuming my pen with an unhappy consciousness of being unable to begin exactly where I left off, I spend some moments in perplexity, nibbling at the end of the holder. I become aware, at length, that it will be necessary to take an entirely fresh start.

* * * * * *

Do my readers — any of them — remember our "maiden" swarm, of last July? We thought its story told; but alas! there is a sequel. "Happy is the nation that has no history," says a wise old proverb; and no less true is it of a *colony*.

From the time that our "maiden" swarm—No. 7 by name—decided to accept the situation and make the best of it, they had furnished no occasion for criticism. Their ten frames were speedily filled with faultlessly regular combs, whereof but a trifling amount was drone comb. In some shallow frames above, they likewise put goodly beginnings of worker comb, for which next season will find use.

On the 16th of October, when I made for them winter passages and removed surplus honey, my only anxiety was lest there were too many bees for profitable wintering. At this time there was a little capped brood, but neither eggs nor larvæ. The day being somewhat cool, and unnecessary exposure an evil, I made no search for the queen, and did not see her.

The bees were unusually cross, and, in subduing them, I used a little tobacco —something I had never done before. (Be assured, however, that it was not used in masculine style.) Whether this had, or had not, any connection with what followed, I cannot tell.

Toward night of this day, an unusual commotion was noticed at No. 7. There was running to and fro at the entrance, and hurrying hither and yon, as viewed through the observation-glass. Applying my hand to the glass, I found an unwonted degree of heat. We agreed, Nellie and I, that it was curious! We agreed, too, that we were unable to solve the mystery, and also to wait calmly, and without much anxiety, for the excitement to subside.

A latent fear, however, awoke me early next morning, and impelled me to go forth to make renewed investigations before breakfast. It was a cool, frosty morning. To my surprise, the observation-glass was still warm, and the bees were still excited. While I pondered, I noticed at the entrance a dead body of unusual appearance, and bending nearer, I saw, to my unspeakable horror, that it had no wings! that it was a queen—even my poor Rebecca!

(The experienced bee-keeper, who has lost whole colonies, or mayhap, an entire apiary, by disease, or frost, or fire, will be kind enough to conceal the smile he may not be wholly able to repress. To lose the queen to one's strongest colony, so late in the season, was misfortune enough for a beginner. But *this* queen was peculiarly dear to me, as being the oldest queen of my own rearing,and the only queen whose wings I had heartlessly clipped.)

When sufficiently recovered to do so, I picked up the little body and vainly tried to warm it to life with my breath. Then, having carefully but hopelessly, deposited it in a warm place, I obeyed a summons to breakfast, and seated myself to pour the coffee, with what was meant for a calm and tranquil demeanor.

"Are you sick, Cyula?" inquired Richard.

"Oh no!" I responded, with a ghastly smile, and a sudden but nerveless attack upon a large potatoe.

"Shan't I make you some toast, Cyula?" anxiously inquired Nellie, a few moments later.

"Oh no, I believe I am not very hungry this morning."

"But wouldn't you like a cup of tea?" persisted Nellie.

"No,—your coffee is delicious, Nellie," hastily raising my cup.

"I believe that you had not tasted it!" she exclaimed, half indignantly. "It is one-half, at least, cold coffee warmed over!"

Conscious guilt prevented other reply than an apologetic smile. A little after, Nellie's hand stole across under the corner of the table, and gave my dress a sympathetic twitch. As I looked up,

"What is it?" her eyes asked.

"Nothing—that is—after breakfast I will tell you," I responded in an undertone; and then, having replenished the empty cups, I escaped to the next room, whither Nellie soon followed me: her breakfast, spite of my good intentions, having been almost as effectually spoiled as my own.

An hour afterward—various plans having been discussed and rejected meanwhile—Nellie suggested:

"Send to Mr. —— for a queen."

"'Tis too late, I fear."

"Do you fear that he has no queens left? or that the weather may be too cold to send one?"

"Both."

"But since nothing better can be done you might try."

Briefly told, the trial was made. Fortune favored our attempt more than could have been expected; and about twelve days after Rebecca's decease, we received through the postoffice, a cunning little cage, holding the much desired queen, with about a score of attendants. The tiny colony had been amply provisioned with half a stick of candy and a small sponge of water. Not a bee had died during the four days which had elapsed between the posting and the receipt of the small package.

We felt then that our trial was over. To suppose that *our* bees could be unreasonable enough, and so ungrateful as to object to their new queen, scarcely occurred to us as a possibility. We had so identified ourselves with the colony in their loss, had been so affected by their plaintive moanings (or what, to our excited imagination seemed such), by their restless searchings, and aimless wanderings—in short we had made their grief so much our own, that—as in effect we have already said—we scarcely thought to ask ourselves, if *they* would sympathize with *us* in our joyful reception of the new queen. In our simplicity we took it for granted.

Nevertheless, we thought best to proceed according to rule: so, for more than forty-eight hours, the bereaved colony were permitted to make the acquaintance of their new sovereign, through the meshes of her cage. Then the final introduction was performed with great ceremony, and according to all the rules of etiquette for such cases provided. Apparently, it was successful. I had one night of peaceful repose.

Next morning, just to make assurance doubly sure, I sent out Nellie to examine the entrance of the hive, I watching her through the window.

She brushed away a few dead bees, examining them in a manner satisfactory enough to her interested observer, until, with a sudden start, she glanced

up at the window. It was enough—the story had been told!

I left the window, and presently Nellie came in to tell me, what I already knew—the new queen had been murdered by her rebellious subjects.

CYULA LINSWIK.

North Eastern Bee-Keepers' Association.

THE FOURTH ANNUAL CONVENTION, HELD AT UTICA, N. Y., FEB. 4 AND 5, 1874.

FIRST DAY.

After the preliminary business matters were disposed of, President M. Quinby, of St. Johnsville, delivered his opening address, from which we print extracts as follows:

WHY DON'T FARMERS KEEP BEES.

This question put to most farmers might be briefly answered, Because I don't know how. But, like the Yankee, who answered one question by answering another, it indicates the importance of asking *why* we do not know how. And answering this involves the asking of a thousand others in the multiplied ramifications leading from it. Do not expect me to answer all, or even very many, for the very significant reason given above, *I do not know how.*

Bee-keepers desirous of promoting this branch of science, must present inducements to the farmers themselves, before they have any to present to their sons. Nearly all that have been offered have been presented very unskillfully. One class simply believes that improvements have been made in the hives, without understanding why they are improvements; and we find some hives patented, not because they are improvements, but because they are different from others. Bought and sold, not because they will promote bee-culture, but because money is expected to be made without labor. Practical knowledge of management can no more be bought with a price, than capacity for the school-boy. Failure has been the consequence of supposing it could, and to-day ten empty hives can be found piled up as wasted lumber, where one can be found containing bees. The result presents but few inducements for the farmer to begin bee-keeping. Another class—small to be sure—endeavor to make bee-keeping attractive to the masses. Owing to the peculiar training of the farmer, and his own ignorance of the subject, their efforts have proved nearly abortive.

Two years ago, some progressive bee-keepers attended the discussion on this subject, at the rooms of the State Agricultural Society. It was expected some success would follow their efforts, as some important points in their experience were given, the result of what they knew—little in comparison to what will be known—and they gave it freely, without money and without price. It was shown very conclusively that a man had secured, in one season, 25,000 lbs. of surplus honey, and saved his bees for another year, his sales amounting to over $7,000. We exhibited very clearly by this one case the amount that could be collected on a small area of land. And this in turn gave very clearly the amount produced in the area of the whole State—which amounted to millions upon millions of pounds—that of other States not mentioned. The object in making this statement was to show that there was no lack of honey to gather, now wasted, to engage all the enterprise likely to be enlisted in a hundred years yet. The object in stating the amount collected by one individual, was to show the difference in results, between the old and new method of bee-culture.

Understanding something of the manner in which farmers had been educated in this matter, and suspecting it might not be received as a truthful relation, it was suggested that a committee be appointed to investigate the statements made by the society. A resolution to that effect was offered, but never carried out. Had it been, it might have settled the point relative to the facts. A prominent member, an officer of the society and chairman of the meeting, who seemed to know something of bees by his own experience, said that he had kept bees many years, and never found them very profitable. Once in about five years in good seasons, they paid; other seasons it was more trouble to keep them alive, than they paid for, advised young farmers to be very careful how they invested in the business. In these remarks we find an answer to the question why a certain class do not keep bees. Coming from a prominent man, all would suppose him qualified to decide. On what grounds the decision was made was not asked. He evidently did not believe the statement made by the society. But his experience of twenty years ago could not be supposed to have any great value now, and it was hardly fair to give it as proof that bee-keeping would not pay, thus discouraging future effort. Sheep husbandry has been taught for thousands of years. Should a man that discovered some improvement over his neighbor's management at this late day refuse to give it to his neighbor; or should the neighbor, if it should be given him, refuse credence to his story because he had kept sheep many years and thought he knew about all there was to be known on the subject, and say that some years they paid very well, but he thought the chances of dry weather, poor pasture, poor fences and other casualties made it rather risky business? Should he not be careful how he discourages progression? This course, no doubt, discouraged bee-keeping the more be-

cause of the high source from which it came.

Teachers in any new science must expect to labor without recompense in worldly wealth. It must first be established beyond dispute that it is a science, that there is knowledge yet to be had for the inquirer. There must be created a desire to obtain this knowledge before any recompense is thought of. I will not say that some of the objections raised have their foundation only in spite, but they certainly savor a little of it. It would almost seem as if the greater the success, the stronger the opposition.

The greatest calamity that has befallen bee-keepers the past two winters, has been the loss of stocks. Whenever a similar calamity visits the dairyman or horse breeder, like the rinderpest or epizootic, the whole country is agitated. Not a paper but hoists the signal of distress, losses are enumerated, damages recounted, remedies suggested, and sympathy without stint given.

But when the bee-keepers are assailed with reverses like the devastations of the moth, foul brood, calamitous wintering, etc., etc., not a note of distress is sounded, nor a word of sympathy uttered, perhaps because we are weak in numbers. Unless we can help ourselves, it appears we must not expect to be helped. How much have we done toward solving the problem of the past two winters? Among all the theories yet advanced, only a small part, as yet, seem probable. Dysentery in one of its worst forms, is common immediately preceding the death of the colony. Most of us have inquired into the cause of dysentery. It has been suggested that it is in the unhealthy quality of the honey, and pure syrup of sugar has been substituted as food for the bees, hoping to avert the disease. Others have supposed that simply protracted cold will produce it. Others have taken this view of it: When the bee has filled itself with its food — honey or syrup — and is kept warm enough, the liquid portion passes off into the air, in the form of vapor, while the more solid part is changed into wax, or passes as excrement in a dry state. But when the single bee is chilled for only a short time, or when the cluster is chilled between the combs in the hive so as to prevent those on the outside of the cluster from changing places with warmer ones inside, the liquid portion is not exhaled, but remains in the abdomen till it can no longer be retained, and they leave and discharge it, soiling everything near at hand. They seldom return, and the cluster grows smaller, till gone.

It is proper that we should, like skillful physicians, examine the subject in all its bearings, and if we are fortunate enough to find the cause, we may possibly find the remedy; in which case we shall benefit bee-keepers as much as the philanthropist who helped discover the cause and remedy of rinderpest. If bees can be made to pass the winter as safely as cattle or horses, we shall have taken one important step toward advancing bee-keeping. I think they can. Some of the younger members among us may yet consider this calamity a blessing. They may be led to guard against future disaster successfully, by the investigation of facts which would never have been thought of but for the disaster.

The fear of stings is greatly in the way of progression. Can we not do something more to remove some of this faint-hearted timidity? There is much to be done in this line. The man can do but little in studying the nature of the bee who is constantly thinking of stings, instead of his studies. If he makes the sting a study—and it is a broad one,—he must get rid of the dreadful fear of it, or he will not progress very much. He may sit quietly down, take the sting, with or without a magnifier, and he will see that he has only a small instrument of warfare, so minute that a puncture in the flesh made with it, would not be realized were it destitute of poison. He will then inquire what made the smart. Examing closer he will discover at the base of the sting quite a lump detached from the bee's body—apparently a part of it—saturated with a clear, transparent liquid; it may be seen glistening over the surface before parted from the bee. When thrust into the skin a very small particle of the subtle poison is transmitted into the flesh, producing the sensation so much dreaded.

When a quiet cluster is resting and disturbed moderately, they simply put up the abdomen in such a way that it will not touch another bee, put out the sting, and exude a tiny globule, nearly covering it, saying as plainly as actions can speak, "You must beware how you proceed further. See what the Creator has given us as defense against the ruthless spoiler. You have wronged us for ages. We begin moderately, as you have. Now we have given you a sight; we have given you a sniff; we *can* give you a taste." When he can understand their language, if he is judicious, he will set himself to interpreting it—will try to see under what circumstances bees are disposed to sting; see when this acrid poison is set afloat in the air, and what effect it has on other colonies; see if a quick motion, while this is in circulation, does not attract attention. He will discover that bees, when busily engaged bringing stores have less time to resent insults—real or imaginary—than when quietly reposing on a cool morning; and that on a pleasant day they are less spiteful; and that such time is the best to work with them. When this poison is floating about, informing surrounding bees that they have been disturbed, he will inquire if any substance will neutralize or destroy it. He will find that smoke of

rags, paper, wood, or tobacco, thoroughly diffused through the atmosphere, will do it effectually. This has long been used. But he will ask if the best way of applying it has yet been discovered; if he is thorough he will find whether it can be applied so effectually that none of this poison will be perceptible in the air, and no bee have cause for anger or disposition to sting. And he may go into their midst without fear, nor tremble at the approach of a tiny bee; and he can pursue his studies and make discoveries unmolested, and add to our knowledge of the science.

When this is known, this pursuit will be made more attractive and profitable to ladies and children, and *even farmers' sons*. When we can trace the natural history of the bee as it is, not as said to be by thousands who have drawn on imagination for theories, that can be upset by the first scrutinizing observation of facts, we shall be more likely to interest the student. Witness the mistakes made—almost with his last breath—by one of the most profound naturalists of the age, before a college of students. It was copied by the agricultural press extensively. It was criticised by one who had made this branch of natural history a specialty. Few, probably, would dare sanction the criticism, not knowing enough of the real history of the bee, to decide upon its merits; they would be likely to conclude, as most of us would, that the eminent man was probably nearest correct. It is our duty to examine all these things, that we may be able to decide for ourselves, and advance science.

I have endeavored to show that we are not to blame for what we do not know—that we cannot *make* a thought. But when we have a thought, which, given to others, would make them think, and we refuse to give it, are we not censurable? I have endeavored to give some of the reasons why the people do not keep bees; also some reasons why they should keep bees. Will each of you go farther and explain things clearer.

Upon motion of Captain Hetherington, a vote of thanks was tendered to President Quinby for his able address. Mr. Alexander, of Camden, expressed his deep appreciation of the unselfish motives and generous good will which induced the President and other eminent bee-keepers to prepare addresses for the instruction of their fellow-men when no hope of pecuniary reward could incite them.

Mr. S. Alexander, of Camden, read a pleasing paper, of which the following is an abstract:

Whether the Darwinian theory of evolution be the true one, that matter is its own lawmaker, or whether, with Agassiz, it requires some special hitches occasionally, or whether, with Davis' harmonial philosophy, that spirit acts in and through matter, is to me, at present, of very little account—enough that this world contains bees and men, and that they are mutually advantageous, and, perhaps, mutually instructive. While others, with philanthropic intent, are hoping to educate them to resignation to be plundered scientifically, as we are legally, be mine the task to try to educate myself, by studying some of their peculiarities and characteristics.

Their polity, their government, their way of doing things, I think is somewhat instructive. They can not be said to be strictly communists but thorough co-operationists, which I think is as far as they have gone,and farther than we have gone. I think we might take some useful lessons from them; for instance, from their manner of disposing of gentlemen of leisure, though on humane and philosophical principles,I am opposed to capital punishment; but I am willing to let them try out-door exercise even if the coming season be somewhat inclement. Whether these gentlemen are credit mobiliers in the hive or out, or only go in for watering stocks, I will not attempt to say, but the patrons of husbandry of the hive seem to consider them as middle-men, only to be used when absolutely necessary, and at all other times worthy of immolation. Whether they go for salary grab, or civil-service reform, seems entirely inconsequential to the internationals, Italian or otherwise. Indeed the gold-ringed counts seem to be as radical as our black republicans. And then there is the woman question; here, perhaps we differ some, the most of our lady apiarians maintaining, I presume, that it is the best government ever devised by bees or men—queen in regal dignity, presiding with graceful authority; while others,—and that they should have the Quinby authority in their favor! that it is a strict democracy.

Captain Heatherington, Treasurer, read his report, acknowledging a total of receipts of $51.00, including the previous year's balance. The receipts of the last convention were $17. The expenditures for the year were $21.09.

Agreeable to a suggestion, the Secretary read the Constitution, and an opportunity was offered for the enrollment of new members. Several new names were added to the list.

The election of officers for the coming year was effected with the following results:

President—M. Quinby, of St. Johnsville.

Vice President—S. Alexander, of Camden.

Secretary—J. H. Nellis, of Canajoharie.

Treasurer—J. E. Heatherington, of Cherry Valley.

President Quinby presented the following question for discussion: "Does the clipping the wings of the queen injure her capacity for usefulness?"

P. H. Elwood had never observed that clipping, properly done, injured the queen. If the clipping was too close he had known the workers to kill her.

Secretary Nellis asked how short to clip.

Mr. Elwood thought one wing two-thirds off was best.

Mr. Quinby stated that the object of clipping was to prevent the queen from flying when the swarm comes from the hive, and without the queen the swarm will not depart. The question is, Is the queen rendered less fertile by the clipping?

Mr. Nellis. At the Louisville Convention, a member read a paper on bees' wings, in which it was stated that several of the functions of the bee were located in the wings, such as breathing, etc. I think the theory very erroneous. I have practiced clipping for five or six years, and have seen no bad results. I have at present more than forty queens with wings cut off, and consider them as servicable as others.

Mr. Doolittle, of Onondaga Co. I would like to ask how many wings were cut, and what instrument was used?

Mr. Nellis. I have sometimes cut all the wings two-thirds off, and I did not consider the queen injured. Formerly I cut the wings with a knife, but now I use a small pair of lady's scissors. I would advise cutting the wings *on one side* two-thirds off.

Mr. Vandervoort. I have clipped queens for fifteen years, and never saw any injury from it, except where I had cut so short as to hurt the bone.

Captain Heatherington. I have practiced clipping some time. I have had three and four hundred clipped at once. Clipped queens are more likely to be superseded. I think this happens because the queen is regarded as a cripple by the other bees. But I shall practice clipping, nevertheless.

Mr. Doolittle. I am certain that clipping off both wings and one leg will not injure the queen's capacity.

Mr. Alexander. I have no doubt that the bees perceive the deformation, and are led to supersede her. I think, also, that continued clipping might, after generations, affect the insect. There are sensations located in the wings, and bees communicate by the noise made by them, but convenience calls for clipping, nevertheless.

Mr. Doolittle. I think I can prove the ability of clipped queens. I have clipped off a queen's wings and a hind leg close to the body, and the bee worked for four years.

Mr. Heatherington. The point needs wider proof than a single instance.

Mr. Doolittle. I have several queens all of whose wings are clipped close to the body.

Mr. Bettsinger, of Onondaga Co. I agree with Mr. Doolittle. I have seen his crippled queen. She is a good effective queen. I have clipped for eight years. I began by clipping one of the four wings, and the queen went with the swarm. I then clipped off every wing entirely. I have ninety queens without a vestige of a wing, and I can say, Do not be afraid to clip off the wings.

Mr. Heatherington. I am certain that no queen with a wing clipped can light with a swarm upon a tree.

Mr. Doolittle. I have known of cases like that instanced by Mr. Bettsinger.

Mr. Nellis. I think even a little of the wing clipped would retard the flight. I can not comprehend how a queen with a whole wing gone could go with a swarm.

Mr. Quinby. I know of a case in which a swarm went out with a young queen, and left the clipped queen in the hive. Perhaps some of the contradictions may be accounted for by the fact of new queens.

Mr. Doolittle. A queen, after ridding herself of her eggs, becomes as slim as a working bee, and can fly with one wing gone.

Mr. Elwood. I claim that clipping off all the wings subjects them to hazard in falling, as a queen with part of a wing gone could not fall as one with all gone. I think clipping one wing on each side of the body might balance the insect and enable it to fly.

Mr. Heatherington. A clipped queen is most likely to drop from a cluster in moving.

Mr. Bettsinger. Black bees are more liable to drop than the Italians. Italians cling closely to the comb. I experiment continually, and have tried to see whether the clipping injured the queen. The wings are to bear the body through the air. They cannot use them in the hive. They cannot make a noise with them; they can not do anything with wings but go through the air. The queen's business is in the hive, wings are of no use there.

The question next presented was, "How soon after hatching is the queen capable of laying?"

Mr. Quinby had known them to lay in seven days.

Mr. Nellis believed, in the working season, the average was nine days.

Mr. Doolittle said the shortest time he had known was three days, generally from four to six days. Mr. Bettsinger approved of four to six days, under favorable circumstances, in the majority of cases. Mr. Elwood said, once his trouble was to get them to lay at all. Sometimes two weeks elapsed, and in the fall it was longer. Mr. Bettsinger would kill queens which did not lay in ten days. By favorable circumstances, he meant a full swarm, with bees working well and putting in lots of honey. Mr. Doolittle made a distinction between natural, artificial and forced queens. He thought forced queens good for nothing.

Vice President Alexander, assuming the chair, submitted the question whether those queens raised by artificial means are equal to the natural production of the hive.

Mr. Doolittle said he meant, by forced queens, those which are hatched in from seven

to ten days. An artificial queen, hatched in from eleven to fifteen days, is as good as a natural queen.

Mr. Quinby had raised queens for ten years. He never raised one which came out short of ten days. He knew nothing of five or seven days queens. He gave the bees brood and watched the time; they never gained but a few hours on the ten days. He could not see what was meant by forced queens. How are they distinguished from a natural queen? They are raised in a small box containing forty or fifty eggs. The bees find they have no queen and go to make one. The whole attention of the group is directed to producing a queen. In a full hive there are combs to be taken care of. In the box the bees can work for the queen. The fertility of queens raised in a little box shows the better care their rearing has had.

Mr. Doolittle's idea was that queens could be hatched in seven days, taking larvæ five days old. He had raised such queens and they were useless. It may be done in a full hive or in a nucleus box, the result is the same.

Captain Heatherington asked how he could estimate the age of a larva.

Mr. Doolittle said a larva five days old nearly filled the cell, and the bees can convert such a larva into a queen. His method of raising queens is by taking the queen out of the hive, and inserting brood of another species if he wishes to make a change. In the hurry to get a queen the bees will take the larvæ which can make queens soonest.

Mr. Bettsinger used the small box first, and then raised queens artificially in a natural way in a full stock of bees. First take away the queen, then in 6 or 8 days cut off the cells started and introduce eggs of the kind wished for. As the egg hatches into a larva, the bees feed it and thus secure natural queens, artificially.

Mr. Vandervort had raised queens since 1863, and had never known a queen to hatch in less than 10 days.

Mr. Doolittle said his experiments were very accurate, and he was satisfied with his results.

SECOND DAY.

Mr. Quinby called for the discussion of the question, "The best mode of wintering bees." Mr. Bacon said his trouble is in "springing" bees, and he wished that added to the question. The discussion followed:

Mr. Quinby. For forty years I have kept bees, and during the last two years I lost many more than usual. I propose to inquire into the causes of the fatality. If the cause is in the honey, or in the temperature, we should know it. The honey has probably not changed from year to year. The cold weather has been severe and protracted. Experience should be related upon this question of causes.

Mr. Bacon, of Verona. My first lesson in bee-keeping was severe. I was nearly stung to death in childhood. I have kept bees ever since. I never had any experience with dysentery in bees until the last two years. I have, until two years, kept bees successfully in a cellar. I have had less difficulty with the old box hives than with the frame hives. I never had, until lately, any cases of dysentery with the box hives. Last year I noticed it, but it was in frame hives. I put out the bees in good condition in April. The weather was cold. My best bees were gone by the first of May. They died seemingly in the fields. I believe the cold winds killed them. Their constitutions were first weakened by the long winter and by the poorer quality of the honey, and the cold air struck them down. About the first of June the weather changed, and bees which had any life revived. I have now built a bee-house. I dug a trench two feet deep, twelve by eighteen feet. I filled it with stone. This was the foundation for the sills. My studs were five inches deep. I boarded outside and inside and filled in with dry earth. Overhead the ceiling was close and filled in to the tops of the joists with earth also. I filled the windows with closely fitting sawdust boxes. The doors were like safe doors and filled with sawdust. My walls have three thicknesses of boards, five inches of dry earth and two inches of dead air. I ventilate with a tube six inches square made of boards nailed together. This tube has a damper in it, and runs along the floor, and has holes bored in it to let the air escape into the room. I have top ventilation with two five-inch apertures, which may be closed. I put in the bees, packed closely, one stock above another. The room is darkened comfortably. I put the bees in, in November. The weather was very severe about the middle of the month. Before the bees were put in, I heated the room very warm to drive out the moisture, then put out the fire and let it gradually cool down. In January, on a fine day, I took out half the bees and gave them a chance to fly. After a time, those taken out had no dysentery, while those which had not been aired had it. I am very reluctant to enter the bee-house with a light. The temperature runs about forty degrees on an average. It is warmer than I ever kept them before. The cost of my building was $125 in cash; no charge being made for my time. A building of the same kind might be built rougher and cheaper. I believe sugar feeding will not save bees. It may be a little better than honey in some respects, but not generally trustworthy. My frame hives which failed to winter were seventeen by nine and one-half inches. I never will use any frames short of a foot deep in the clear. Bees will winter better

in a deep hive. I put straw over some of the hives, and they did better than those without.

L. C. Root. In wintering bees, there are three things necessary: Proper condition when going into winter quarters, proper temperature, and quiet. Bees are usually in best condition to go into winter quarters, when the honey is stored from time to time during the season—the amount being increased as the brood diminishes. This leaves empty comb where bees cluster. The principal objection to late fall feeding is the hive contains no brood, and the honey or sugar fed is stored too much in the centre of the combs. We find that about forty-five degrees is the proper temperature where they are subject to any jar. I think if they could have perfect quiet, they would stand a much higher temperature, and consume a less quantity of honey. In our cellars the present winter, where the thermometer stands at forty-five to forty-seven degrees, one swarm consumed two and three-fourths pounds during November; one and three-fourths during December; one and three-fourths pounds during January. Another swarm consumed four and three-fourths pounds during November; two and three-fourths during December; five and three-fourths during January. The difference in quantity is owing to warmth and quiet.

S. A. Cleveland. I believe we should report our losses. A year ago I had forty swarms in good condition. From all my frame hives I had extracted the honey. I continued to feed one-quarter of a pound a day of sugar, until April 1. They seemed in good condition. I set them out, and they were raising young bees. About April 20th I noticed they did not eat the honey. I only succeeded in getting seven through the spring. Four out of six in box hives survived. They had no honey taken from them during the year before. Last year my record was all reverses.

M. H. Tennant. Quiet is what bees need. I went into my bee-house Wednesday evening, and I never saw better swarms than those fed with my feeder. I feed nothing but pure box honey. I have succeeded very well with straight "A" sugar. My house is fourteen by sixteen feet, above ground, with saw-dust-filled walls, ventilated above and below, the current of air passing up the centre of the room, and the bees standing around the sides. I put cleats on the floor, and then piled the hives one above the other, bringing them out a little from the wall. I think a floor should be avoided, as you can not step on it without jarring. One winter I only went into the bee-house four times, and only lost two swarms. In the spring I lost eleven. I found them around on the fences, where the wind had caught them and chilled them fast.

L. C. Root. It is protracted cold which ruins the bees. A wind from one direction will drive the bees to the other side of the hive. They will eat all the honey on that side and die. They cannot get back to the food on the cold side. Getting excited induces the bees to leave the cluster, and then they get chilled easily.

R. Bacon. I am slow to believe that cold alone produces dysentery. We should learn the cause for a certainty, if possible.

S. Alexander. I believe with Mr. Root that long detention in the house will not injure the bees. We bought a hive of a neighbor who left it in until May 15. It was the best hive we had. We put out the bees early, and saved them, but those left in until May were the best bees. The idea in modern hives is to make them non conductors. This, of course, makes it slow business to warm them. Thus protracted cold results. This might account for Mr. Bacon's bees not doing so well in frame as in box hives.

J. H. Nellis. This would work if bees were not capable of producing warmth. In an article written some time ago, Mrs. Tupper asserts that she wintered bees very successfully in a cellar, under a living room in which children were constantly romping. I once wintered bees, some in box, some in frame hives, under ten feet of snow, from January to April. I shoveled them out and rapped on the hive with no result. They were dormant, and it took an hour to revive them. They were in good condition. I have wintered bees very nicely in a cellar at a temperature of forty degrees. The last two winters have been disastrous, however. The winter of 1872, I had seventy-seven stocks in the cellar—forty-four in box hives. Lost more than one-half of those in box hives, and but few of those in frame hives. I think the bees in frame hives were stronger and more thoroughly bred. I lost about one-fourth of my stocks. In the fall I fed five stocks on sugar syrup. They wintered better than the average, yet not satisfactorily. Those subsisting on late-gathered honey wintered as well as those supplied with honey stored early. The cellar averaged probably about thirty-five degrees. I think they should be kept warmer—about forty-two degrees, and after the first of March they should be warmed frequently to fifty degrees. I would have them breed considerably after the first of March. I think the scarcity of young bees at the time stocks are taken from the cellar, the prime cause of disaster in the spring. The old bees die of natural causes, and leave what little brood is started, unprotected. I have known stocks in rickety box hives to winter well out of doors in the most exposed situations. Facts are so apparently contradictory, that I cannot reach any certain conclusion.

Capt. Heatherington. We bought some bees in Vermont of a Frenchman who had left his bees until May. His bees were in as

fine condition as I ever saw anywhere. I think they were put in early. The shelter was rather defective, but the walls were made of earth, and the principle was correct. The floor was of earth. I find a bee-room an excellent place for keeping honey in the summer, and to avoid the danger of jarring the floor, a coating of saw-dust might be used. I began wintering in a building, and was successful. I left some out of doors and they were stronger. I changed in-door practice to out-door wintering, and changed to straw hives to winter out of doors. Straw is a good conductor of moisture and non-conductor of heat; that is what we need. Since we changed to the Quinby hive and changed the temperature we have lost many swarms. I have now a special bee-house. The foundations are banked with earth. The floor is doubled, with thick paper between. The paper is made of prairie grass. The frame is a balloon frame, with plaster board on each side, and side boarding outside, and ceiling inside besides. The space between the studs is filled with planing machine shavings. The walls are "furred" out and another thickness of paper so put on as to make a chamber of confined air, and ceiled again inside the paper. The walls contain three thicknesses of plaster board, three thicknesses of boards, and six inches of stuffing. The joists overhead are three by eight inches. The plaster board and ceiling board are fastened beneath the joists, the space filled with stuffing and plaster board, and tight flooring placed above. The building is eighteen by twenty-four feet, with partition through the middle, and hives on shelves around the sides. I am favorable to the use of dry earth in the walls.

R. Bacon. I line with rough boards, and the influence of the dry earth can be gained through the cracks between the boards. I will give a hundred dollars for a method which, with fair management, will enable me to keep bees through the winter.

L. C. Root. The convention can afford to give $5,000.

G. M.Doolittle. Mr. Bacon's trouble with dysentery was caused by his disturbing the bees left in, and not because some were taken out and others left in. I believe if a swarm dies before February 1, it was good for nothing when it was put in. I began with Mr. Quinby's method and wintered bees in the cellar. They did well the first year. The next year they came out well, but dwindled away because of the cold spring. Next year there were many soiled combs. In the spring I lost heavily. I then began out-door wintering, sweeping the snow around the hives after every storm. I used Novice's quilts, and packed straw in the caps above. Until January 1, all was well. Then they began to steam up. The hive was in commotion. I took off the straw, leaving only a quilt. The quilt is calico cloth lined with cotton. The next morning they were still in bad condition. I took them into the cellar and got the hive through, but it was not of much use. I believe too warm weather is more dangerous than too cold. Fifty degrees I believe is too warm. It is too warm when they begin to breed. Last spring my bees came out in good condition. For two weeks we had warm weather and the bees worked well. Then came the cold weather. After five days the larvæ were mostly dead. Many hives had only a double handful of young bees. I would not have bees commence breeding until after the first of February. I had a hive without brood until May, and it was the best hive I had. I made forty-five dollars from that hive.

L. C. Root. Don't close your hives at the bottom, so that the bees can not get out if the temperature induces them to fly.

R. Bacon. I tried shutting up hives at the bottom, and supposed they were doing well. I examined the bees, and found the boards covered two inches deep with dead bees. Don't let bees think they are imprisoned. I leave a good deal of ventilation at the bottom.

G. M. Doolittle. I have examined my closed hives, and found only five dead bees under one hive, and not more than a tablespoonful under another. I seal them up as tight as I can get them without sealing-wax.

N. N. Bettsinger. I winter bees out of doors, putting straw on the top, with a hood over the hole. The steam passes through the straw, and freezes the hood tight. This tight closing is continued from January to spring. The bottom entrance becomes frozen up, and the hive is almost air-tight, so far as I can see. My bees are wintered on honey gathered in September and October. I do not believe that bees can cluster on the honey without freezing. Bees can stand a low temperature, even when away from the cluster. When they die here it is because of moisture, not cold. There is less moisture in the cluster than in the honey-combs outside. I keep my bees out of doors, and sweep the snow around them, sometimes covering the hives.

Mr. Bacon. I have seen bad air burst from a closed hive in such quantity as to extinguish a candle. In opening the hives the bees were found to be dying fast. I want to know how bees can live in such air.

Vice President Alexander. I have in mind an instance in which bees, being much disturbed, generated heat enough to melt the comb and let the honey run down upon the floor. The bees were confined. I had a case of a ruined hive when closely shut in, and I think it came from lack of air.

Mr. Vandervort. If cold has caused the mortality among bees, why didn't it affect us years ago? I have known bees on the prai-

ries of Illinois which have withstood long periods of very cold weather and fixed winds.

A gentleman said: I think the more air the bees get the better they will go through the winter. I had a swarm with a season crack in the hive, standing in an old shed all winter, and they were in excellent condition in the spring. I think it is dampness rather than cold which kills the bees. I never had any trouble until within the last few years.

Mr. Elwood. The theory was advanced at the last Convention that carbonic acid gas settles in the bottom of hives. I have investigated the subject with care, and find the theory to be erroneous. The constant tendendency of gasses to diffuse and intermingle renders it impossible for the hive to fill in that manner.

AFTERNOON SESSION.

President Quinby called the meeting to order at half-past two, and briefly reviewed the points made at the morning session concerning winter care of bees. He said: There is need of ventilation, and need of quiet from excitement. Dysentery is produced by the cold. The continued chill prevents proper digestion, and the disease soon follows. To prove that dysentery does not result from the food, I will refer to a hive fed with sour honey which did just as well as the others. Another hive which I kept in a cold place and fed with the best food, were taken with the disease. I argue further, that in a warm, healthy state, the liquid part of the food is volatilized and passes into the air. In the disease the assimilation is faulty, and the fluid passes out as an excrement and causes the dysentery. I think temperature will be found to have more effect upon the health than the lack of ventilation. Keep the bees healthy, so that the excrement is dry when discharged. It is not well to let them out to discharge a liquid excrement, which they will do when chilled, but keep them in and keep them warm, so that the discharge may all be dry.

Mr. Ellsworth. The fact that dysentery can be brought on almost instantly, is quite a corroboration of the idea that it is caused by sudden chilling.

Mr. Bacon. Bees used to be handled far more carelessly some time ago than now, and were chilled more often; yet they did not have dysentery.

The time having arrived for the discussion to be closed, the next business in order, the selection of the place for the next meeting, was called up, and Utica was chosen. After some desultory remarks, the Convention adjourned to meet in Utica the first Wednesday in February, 1875.

We, herewith, present a table showing facts concerning the stocks and yields of some of our bee-keepers, as reported to the Secretary of the Convention. We believe this is the first publication of the kind which has been made in this region, and hope the beginning may lead others to furnish us with reports of their operations:

NAMES.	ADDRESS.	No. of Stocks.		KIND OF HIVE.	Am't of Honey.		Am't of Wax.	REMARKS.
		Spring.	Fall.		Box.	Extr'd.		
M. H. Tennent,	Stanwix, Oneida Co.,	37	42	Union Hive.	1,800		50	Frame Hive, 8 frames, 10x17.
C. D. Jones,	Kirkwood, Broome Co.,	12	25	King Hive.	500	100	3	Frame Hive, 10 frames, 12x13.
Solomon Vrooman,	Seward, Schoharie Co.,	50	66	Non-Swarmer.	3,500	500	100	Frame Hive, 7 frames, 15x15.
G. M. Doolittle,	Borodino, Onondaga Co.,	29	58	Swarmer.	1,650	700	20	Frame Hive, 9 frames, 10¾x10¾.
J. H. Nellis,	Canajoharie, Montgomery Co.,	37	43	Non-Swarmer.	1,349	539	11	Frame Hive, 8 frames, 10½x18.
Quinby & Root,	St. Johnsville, Montgomery Co.,	130	160	Non-Swarmer.	3,000	3,000	75	Quinby Hive, 7 frames, 10½x18½.
J. L. Scofield.	Chenango Bridge, Broome Co.,	18	40	Langstroth.	1,800	600		10 frames, 7⅞x17¾.
John Vandervort.	Binghamton.	2	16	Langstroth.	Honey to Winter			9 frames, 9x17¾.
A. Baker.	Stittsville, Oneida Co.,	20	24	Box Hive.			12	Very dry season.
G. B. Seeley,	Syracuse,	18	25	Quinby.	500	500		Non-Swarmer, 7 frames, 16x10½.
R. Baron.	Verona, Oneida Co.,	40	59	Variety.	800	100		Estimated.
E. W. Alexander.	Camden, Oneida Co.,	90	76	Quinby.	2,300	800	70	7 and 8 frames, 12½x16½.
A. H. Root,	Palmyra, Wayne Co.,	12	18	Quinby.	280	300		8 frames, 17x10½.
H. Brown,	Frankfort Hill, Herkimer Co.,	12	16	Box.	80		20	Frame. 7 frames, 10½x10½.
J. A. Burdick.	Smithville, Jefferson Co.,	14	21	Sisson Hive.	50			8 frames, 12x12.
D. A. Shaw,	Otiskany, Oneida Co.,	25	90	Box.	30		25	
Isaac Willmarth.	Deerfield Corners, Oneida Co.,	56	54	Kidder.	900			9 frames, 12x12.
N. N. Betsinger.	Marcellus Falls, New York,	60	98	Betsinger's Impr'd	6,000			8 frames, 9x14¼.
Dr. J. R. Pratt,	Manchester, Ontario Co.,		30	Variety.				Just commenced.

*** A number of bee-keepers were unable to report. † The above report is estimated in part. Most of the stocks were in very poor condition in the spring.

For the American Bee Journal.

Wintering Bees.

In the experience related by Mr. Hester, in the AMERICAN BEE JOURNAL for February, I cannot recognize that in the cases reported there is bee-malady. Mr. Hester remarks, that in the autumn of 1868, one or two bee gums perished: the bees dying one after another, in November. Is it not probable that the colonies were queenless, and that the bees perished for that cause? In a normal colony, the place occupied by the queen is the central point for the bees to cluster. In a queenless colony, the bees, having no queen to keep them compact, the cold nights kill those which happen to be outside of the main cluster: and soon the number of bees is too much reduced to maintain the warmth necessary for their existence.

The surviving stocks were put by Mr. Hester in a room which was too much exposed to the effects of the external temperature. When the temperature of the room fell to the freezing point, and that accident, according to Mr. Hester, took place several times from November to the last of February, the bees were forced to eat more to maintain the temperature in their cluster, and of course needed to empty themselves; but as they remained four months in their repository, they got the dysentery. It is probable that the colonies would have been all alive in the spring, had Mr. Hester given them the chance of emptying their intestines once or twice in the course of their long confinement.

In the winter of 1870, Mr. Hester put ten stocks of bees in his cellar, and they wintered in fine condition. In the same cellar, in 1871, forty-three colonies out of sixty perished. This winter, twenty-seven colonies, put in the same cellar, in January appeared very healthy.

Nowhere can a bee-malady be proved by such facts. Certainly the unevaporated honey, which the bees of 1871 had to eat, was one of the causes of the death of the forty-three colonies; but the warmth of the cellar was very apt to help in the bad result. A cellar which, with ten or twenty colonies, is of a suitable temperature for the wintering of bees, can be too warm, if there are sixty stocks heaped up in it. The bees become restless: fatigued by their exertions, they eat too much, and they die of dysentery.

But there was neither bee-malady, nor bad honey. In the first case, there was too much cold; in the second, there was unevaporated honey not fit to winter bees, unless they can go out sometimes to empty their intestines; and probably too much warmth for them to remain as quiet as it is necessary for their health in winter.

CH. DADANT.

Hamilton, Ill.

For the American Bee Journal.

Do Bees Injure Fruit?

MR. EDITOR: Last fall I wrote an article, under the above heading, to the New York *Tribune*, in which I stated my observations, and censured that wise (?) Professor Riley for his bee-destroying recipes and advice. But they did not see fit to publish it.

Perhaps Prof. Riley knows all about bees; so did Agassiz, and yet we know he was in error, when speaking about swarming, comb-building, etc.

Had Prof. Riley made close observation, he would have found that bees do not puncture fruit, and would have had no occasion to publish his ignorance, by giving his cobalt recipe. He would have benefited mankind a great deal more had he taken a dose of the mixture himself, for I think we can spare such professors better than the bees he has caused to be killed.

This fall I took a bunch of Delaware grapes (the most tender variety we have here), and put it on a hive, directly over the bees, and watched proceedings; but not a single berry was opened; then I broke a few berries, upon which they went immediately to work, sucking them dry, thus showing that something besides bees does the mischief.

Now, if bees were so destructive to fruit as some try to make out, how is it that so many are kept in Germany, France and Italy, where fruit, especially grapes, is so extensively raised? They know that bees are beneficial to

fruit culture, and bee-keeping is encouraged instead of persecuted.

In Italy there is a law regulating the size of hives and frames. If the bees destroyed fruit, there would have been, in those countries, laws enacted long ago to prevent their being kept. And, further, if bees destroyed grapes, would they not do so every year, and not some years only, as several writers state in Report of Agriculture for 1871? It may be said that bees do not work on the same flowers every year (linden and buckwheat, for instance), but that is because they secrete no honey, but grapes always contain juice.

But no matter how foolish and groundless a theory is, it will have some supporters. H. O. KRUSCHKE.

Berlin, Wis.

For the American Bee Journal.

Notes on Wintering.

So many different and conflicting theories have been advanced regarding this branch of our science, that I feel it must be approached with caution. The reason for this caution should be apparent to each of us who may care to instruct our brother bee-keepers on the subject before us. And why? That which will suit us in Pennsylvania may be greatly at variance with both the practice and interest of those residing in Iowa or Minnesota, or even those in Tennessee or Kentucky. The effect of the climate, the amount of honey gathered in the fall from natural sources in the various localities, and many other things should be taken into consideration if we attempt to solve the problem of the "successful wintering of bees."

I doubt not but that in the higher latitudes, a carefully constructed wintering house should be the prominent object of the bee-keeper; and even with us, it may prove an important auxiliary, but after many years of careful observation and experiment, I have concluded that he who will lead us to success by giving us a complete system of *out-door wintering* will be considered our greatest benefactor. With this object carefully in view, I have made the most of my experiments in relation to this matter. A few of them, with your permission, I will give to your readers.

On the 17th day of November, I prepared my hives for winter (it should have been two weeks earlier), having previously cut winter passages in all the combs. I use the Langstroth hive almost exclusively — the double hive. I packed at sides with either dry leaves or old rags, and the caps with clean straw. I removed the honey boards from nearly all the hives, and in their place I put a box frame of proper size, made of plastering lath, and covered with burlaps or common bagging. This frame I filled with clean straw, left about one inch ventilation in front for the flight of the bees, and left the back ventilator in the cap open. Permit me here to say, that for wintering purposes I prefer the single hive, made of one and one-half inch stuff, to the double hive.

On examining stocks packed as described, I find at our lowest temperature (eighteen degrees) this winter, that the bees remained at the top of the frames among their stores. I have tried various coverings for the frames, cotton and woolen quilts, heavy paper, dry leaves, corn-cobs, etc., etc., but find nothing equal to the box frame filled with straw, except, perhaps the corn-cobs; these appear to be the best absorbents of moisture, and at the same time afford the most complete ventilation of the hive.

These are the only preparations I have made this winter, with the exception of the fact that I have covered every hive with light boards to protect them from rain and snow. This I also do in the heat of summer to protect them from the sun.

As I hope to give you further notes on this subject, I will close this already too long communication. "B"

Beaver, Pa.

For the American Bee Journal.

What Gallup has Seen.

We have seen a stock of bees wintered under the following circumstances: They were in an old fashioned straw hive; confined in the hive, and set on some loose boards directly over the fireplace in a log dwelling-house, where

there was a fire kept day and night. In this case they bred all winter, and had no dysentery. Again, we have seen bees wintered, both in Canada and Wisconsin, in the Weeks hive, suspended two feet from the ground, with no protection from winds or weather, and the bottom-board suspended to the bottom of the hive, with one inch space all around the bottom of the hive. On this plan, also, the bees did well and had no dysentery. We have seen hives set on top of a stump, raised on inch blocks from the bottom-board, exposed to wind and weather with the thermometer forty degrees below zero at times during the winter, and no dysentery. We have seen bees in box hives, with a two inch hole in the top, the hive set on top of a stump exposed to wind and weather, two inch hole protected from rain and snow, bottom closed up tight, and no dysentery.

These were all single cased, or single boarded, hives, and, strange to relate, all wintered on their own stores — no coffee sugar or sugar syrup. It would seem that the Almighty, according to some theories, made a grand mistake in not making bees so that they could make their own sugar syrup, if honey was not intended for them.

We have seen twenty-five stocks wintered in a dry, warm room in the cellar, with cement floor, and kept so warm that they bred all winter. These were box hives, turned bottom up, with bottom-boards removed; and no dysentery. We might go on enumerating cases like the above.

If we understand Mr. Hosmer, his small stocks breed all winter and come out strong in the spring, etc. It has been remarked, that extra smart bee-keepers cannot stop to theorize; but we must be allowed to theorize, for it was by comparison, or theorizing, that we gained our present knowledge in the business. Our theory is, that bees kept perfectly dry, as in the above cases, discharge the excremental portions of their food in small and perfectly dry pellets, or, in other words, all moisture is entirely evaporated from the excrement while in the abdomen of the bee, and then their discharge takes place in the hive, and lies on or in the bottom of the hive without any detriment to the colony whatever.

Such colonies, in the above condition, do not show any specks on the snow in their first flight. Their abdomens never show any distention or enlargement from the retention of excrement. Of course, old bees die of old age in the hive, but they are all perfectly dried up, no mistake about them whatever. But in a damp cellar, if our bees breed, we always have to set them out occasionally, for the young, or pollen consumers, to have a purifying flight.

E. GALLUP.

Orchard, Iowa.

For the American Bee Journal.

The Use of the Extractor.

In my article on "How to Feed and Winter Bees," in the January number, there are several mistakes.

In the first sentence the word *keeping* should be *feeding*. I did not mean to say that honey from other *hives* often proves fatal to the bees, but that honey from other *sources* often does, when the bees have been long confined to their hives. Nor did I mean to say that bees should never be fed much more syrup than they would consume in preparing food for their young, but that when feeding expressly for the purpose of propagating bees, care should be taken not to give them much more syrup than they would consume in preparing food for the young larvæ, and for constructing combs for the brood when necessary. When there are more bees in the hive than are necessary for rearing all the brood the queen is capable of producing, they may be fed more, if suitable room is given them in which to store surplus honey, so as to prevent them from filling up the brood combs with syrup instead of brood.

I would also say that when there is found to be more honey in the brood combs in the spring than is necessary for the colony in rearing brood, it should be removed with the extractor, leaving honey only in the upper part of each comb. A good way of converting this surplus honey into combs and brood, is to insert an empty comb-frame in the central part of the brood nest as early

and as often as the bees can properly occupy and fill them without danger of chilling the brood, or checking its development. By this method, with a strong colony of bees and proper care, brood and combs will be produced rapidly in the spring, particularly during fruit blossoming. By this means, the colony may be made very populous, kept from swarming, and the largest possible amount of honey secured from the hive. If honey in the comb is preferred, then at the close of the main honey season feed the bees the extracted honey, or good sugar syrup, giving them all they will use while being fed.

A. T. WRIGHT.

Kokomo, Ind.

For the American Bee Journal.

Review of the January Number.

Whilst reading the article on "Feeding Bees," page 7, I notice that the writer recommends the "most refined grades" of sugar. Now in this I beg leave to differ with him for the following reasons: In past years we have fed nearly all the various grades of sugar in the market, watching the result closely, and find that the "most refined grades," such as coffee A, loaf-sugar and crushed, are too much inclined to crystalize in the comb-cells and on the vessel wherein the syrup is used, and not one of the grades named seemed to be any better than coffee C, which, in fact, is better for bees, because less inclined to crystalize; it also costs less, is more readily dissolved, and readily taken by the bees. The various grades of brown sugar should not be fed, as the syrup is more liable to ferment. The writer further says: "Molasses or sorghum should never be used." I see no objection to the bee-keeper using them, but I have so far failed to induce my *bees* to use them in any shape.

Not too much can be said in favor and on the manner of spring feeding to stimulate breeding; many overdo the thing and have the brood-cells stored with syrup. Another portion of bee-keepers underrate the value of supplying their bees with meal or flour, and many of our western bee-keepers express their willingness to supply meal, did not our high winds blow it away. Again the want of water in the hives, when cold days prevent the bees from getting it, causes a check in breeding, and very frequently the young worm, just hatching, perishes because the nursing bees cannot obtain the necessary water to prepare the food for the larvæ. To obviate this we have experimented for years to produce a feeder that will enable us to furnish bees in their hives, with syrup, water, or meal, until we have at last succeeded in perfecting it.

On page 8, we find a description of "Adam Grimm's Bee-feeder." As that article might lead some of its readers into trouble, it may not be amiss to state that the feeder was patented May 6, 1873; the perforated screw cap, and projecting rim forming specific features in said patent. If the patent was all owned by myself the "trouble" above named would not be very serious; but over one-half of it has passed into other hands.

As a contrasting item on "The Wings of Bees," page 9, I would say that I have an imported Italian queen bee that has had both of her wings clipped close to her body as a special mark, and this for *five* seasons; and last year she was one of the most prolific queens in my yard. If she lives another year she will do well as a specimen without *lungs*. But what is the use of lungs or their equivalent, if bees can live without air, as Mr. Adair stated some years since?

Coburg, Iowa. E. KRETCHMER.

Care of Honey Bees in Winter.

MANY successful apiarians contend that there is no better way to winter honey bees, than to allow the hive to remain isolated in the yard where they have been kept during the summer and autumn; and they point to their success in many years past for reliable evidence to corroborate the correctness of their assertion. The fact that honey bees have been kept satisfactorily in the foregoing manner, does not prove that such a practice can be recommended as the best under all circumstances; for hundreds of apiarians have attempted to

keep their bees without proper protection during the winter, and have lost nearly every skip. There is one fact in which all intelligent bee-keepers will agree, which is, that a colony of bees will pass the winter best when the hive is kept in a location where the temperature will not be rapidly affected by the rapid transitions from warm to very cold, and *vice versa*. One thing in particular should be guarded against, which is this: No hive should be placed where it will be exposed even for a single hour to the rays of the sun. When a hive stands in the sunshine for a few hours, the walls will be warmed up, the little workers will be enlivened and the pleasant outlook will invite thousands of them to spread their wings and fly away to the fields. But, before they have flown a hundred yards, they are frequently chilled to such an extent that they drop to the ground and perish, as they cannot recover sufficient strength to return to their homes. This teaches the eminent importance of guarding every hive from the fury of fierce winds and also from the cheerful sunshine. When the hive is in an isolated place it needs a cover to turn the rain and snow, and boards, rails or brush placed on every side to obscure the light of the sun and to break the force of a cold wind. So long as the bees are kept in the shade, well protected, where they can discover little or no light, the temperature of the interior of the hive will be more uniform, and only a limited number will escape from the hives and perish.—*N. Y. Herald.*

Ventilation.

Bees require honey in winter to keep up animal heat—the carbon of the honey is burned in the body of the bee as coal burns in a stove. If the hive is too cold, the bees will be found to flap their wings in the cluster and thus increase their heat as man does by clapping his hands in cold weather. This requires just so much more expenditure of honey as food. Dr. Carpenter, speaking of an experiment, says a bumble bee was found to produce one-third of a cubic inch of carbonic acid in the course of a single hour, during which its whole body was in a state of agitation, from the excitement consequent upon its capture, and yet, during the whole twenty-four hours of the succeeding day, which it passed in a state of comparative rest, the quantity of carbonic acid generated by it was absolutely less.

From these considerations, it is manifest that unnecessary loss of heat is exactly equivalent to unnecessary loss of honey; the walls of the hive, therefore, should be as non-conducting as possible, and in order to make these the most non-conducting, they should be kept dry. Ventilation is a most important means of keeping the walls dry. This will be seen if we consider the fact that heated air has a much greater capacity to absorb vapor than cold air, and that the vapor thus absorbed rises. Now if there be an escape for this vapor at the top of the hive, the air heated inside the hive by the bees will pass off charged with moisture, and thus leave the inside dry. And the admission of air at the bottom will bring cool air, which when heated by the bees will absorb the moisture and pass it off at the top, and thus by a circulation keep the inside dry, and warmer than if this moisture were retained.—*Live Stock Journal.*

Letter from Miss Anna Saunders.

Mr. Editor: I have just reached home after an absence of several weeks and find many letters applying for seed of the sage tree, and information concerning it. I am sending the seed to all applicants, but will answer most of the questions through the Bee Journal, as they seem to be of general interest.

This tree was grown from a cutting and commenced blooming about the second year. I have never known it to be cut down, or injured by cold weather, as many of our tropical plants are; so, I think that with careful cultivation during its early years, it may adapt itself to your climate. I do not know whether it is honey or pollen, or both, that the bees get from its blossoms. It commenced blooming about the 1st of last July.

Peaches, plums, &c., are in bloom now (Feb. 9), and my bees are exceedingly busy. They are carrying in loads of pollen, and, I suppose, honey, but I have not examined the hives to see, fearing the little baby bees would be chilled. The mercury has been 62° the greater part of to-day. Will some wise bee-keeper tell us what is the lowest temperature at which it is safe to open hives out of doors?

Woodville, Miss.

American Bee Journal.

W. F. CLARKE, EDITOR.

CHICAGO, MARCH, 1874.

Italian Bees.

Joseph Barlow of Blackheath, Ont., asks:—"What is your opinion of the Italian bees? Are they more profitable than the common or black bees? Some say they are and some say they are not. I have the common bees, but if the Italians are better, I should like to get them."

The unanimous opinion of all bee-keepers competent to judge, is that the Italians are vastly superior, in several important respects, to the common or black bees.

1. They are better honey-gatherers. This is the main excellence to secure in bees. We keep them for the stores they will collect, and our profits come from the excess of what they treasure up after supplying their own wants. What percentage more of honey they will gather, over and above the average of what the black bees will do, has never been ascertained, but it has been sufficiently demonstrated, that they are more active and energetic workers, that they will go out on foraging expeditions during weather which confines black bees to the hive, and that they will gather honey from sources not accessible to the black bee.

2. They are more quiet and peaceable. This is a very important point, inasmuch as it is essential to the best success in bee-keeping, that the bees should be freely handled. Artificial swarming, change of queens, extracting honey, putting on and taking off boxes, and a variety of other occupations, necessitate access to the interior of the hive, and render it desirable to have bees to deal with, that do not easily become irritated and infuriated. It is frankly admitted that the Italians, when once made angry, are worse to contend with than the common bees, but there is no need to enrage them, and they are not easily provoked. When a hive is opened, the common bees incline to rush out pell-mell, while the Italians cling to the comb, and remain quiet. With care, an Italian stock can be handled as well without smoke, as common bees with it. The utmost gentleness is requisite at all times in doing anything among bees, and if this is practised, it is remarkable how amiable the Italians will behave. Occasionally things will happen calculated to try the temper of most peaceably inclined bees, just as the gentlest of human beings will sometimes be exposed to provocation. But, under ordinary circumstances, the Italians will be found much more pacific than the common bees.

3. They are less liable to be infested with the moth. For some reason or other, the black bees more readily succumb to this insect pest, than the Italians. Possibly it is because of the untiring energy and resolute determination of the Italians. The moth is a stealthy, insidious enemy, burrowing in secret, and worming itself into possession of the sheets of comb, but an Italian colony of average strength, will hunt them out and prevent their making headway. Many bee-keepers who, when they kept the common bees, were greatly pestered with the moth, testify that on substituting the Italians, this annoyance came to an end.

4. They are more handsome. It would be foolish to sacrifice more substantial qualities for mere beauty, but, other things being equal, it is natural and proper to prefer that which is beautiful to that which is plain and homely. The Italian bee is a more genteeLand shapely insect than the common bee, while its golden-banded jacket looks very attractive, whether glittering in the sun, or covering the sheets of comb. The queens of this breed are often very beautiful. Just as our best breeds of horses, cattle, sheep, swine and poultry are better looking than the common varieties, and please the eye more, while their nobler qualities commend themselves to the judgment, so it is with the Italian as compared with the common bee.

For these reasons, we certainly advise our correspondent to get the Italians. As a change of breeding stock only, they are worth the trifling outlay necessary to obtain them. There has naturally been very close breeding "in-and-in," as it is termed, among bees, and analogy suggests that this cannot fail to be

detrimental. The importation of Italian bees has been worth all it has cost to the bee-keepers of this continent, in this view of the matter alone. The pioneers in this direction were at considerable cost, and have not reaped so rich a return, as those who are indebted to them for bringing this valuable breed of bees within general reach. Five dollars per queen, the average price, is by no means a large sum, when the possible benefits are taken into account. By judicious management, a single queen may be made to Italianize a moderately sized apiary in the course of one season, thereby doubling the value of every hive it contains.

While on the subject, we may as well mention, for the information of the novice in bee-keeping, and the general reader, how the process of the Italianizing is accomplished. As all the eggs in a hive are laid by a single queen, it is only necessary to substitute an Italian queen for the common one, to accomplish the change of breed. It is usual to remove the common queen a week before her successor is introduced, by which time, queen cells will be far advanced. By cutting these out, all possibility of the bees rearing another black queen is destroyed. They will then more readily accept a strange queen. There are various ways of introducing queens, but the safest, especially for beginners, is to cage the queen about thirty hours, and fix the cage so that the bees can have free access to it. They will soon get reconciled to her, acquainted with her, and will feed her. After about the length of time specified, it will be quite safe to liberate her. When there are several hives to Italianize, the new queen must raise a supply of drones, and the black ones must either be destroyed or confined to their hives to prevent their mating with the young queens. This is the great difficulty in transforming stocks and keeping them pure. As bees mate when on the wing, there is a constant liability of the queens meeting common drones. A single hive is soon and easily Italianized. Bees in the summer time are very short-lived. Within three months after the introduction of an Italian queen scarcely a black bee will be seen in the hive. Italianizing several stocks with one queen, is a work of more time and difficulty.

Newspaper Decisions.

1. Any person who takes a paper regularly from the post-office—whether directed to his name or another's, or whether he has subscribed or not—is responsible for the payment.

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Clubbing Bee Journals.

Several of our subscribers have requested us to say what we will club with other Bee publications for. We therefore quote the following:

The AMERICAN BEE JOURNAL and the "National Bee Journal," by Mrs. Tupper, for $3.00 a year in advance.

The AMERICAN BEE JOURNAL and either "The Bee-keepers' Magazine," or the "Agriculturist," by H. A. King, for $2.50.

The AMERICAN BEE JOURNAL and "Novice's Gleanings," for $2.50.

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To Those Interested in Bee Culture.

At the sixth annual meeting of the Michigan Bee-Keepers' Association, it was decided to hold a special meeting at Kalamazoo, to commence Wednesday, May 6, 1874. It is especially desired that all members be present, and, in behalf of the Association, we urge every Bee-keeper in Michigan to attend. A cordial invitation is also extended to all persons interested in the science of Bee-culture whether residing in this or other States. Surely much good may be derived from a comparison of experiences next spring, and from the able papers that will then be presented. Timely notice will be given of all further arrangements. Address communications or inquiries concerning the subject to

FRANK BENTON, *Sec'y.*

Shelby, Oceana Co., Mich.

Voices from Among the Hives.

E. S. Fowler, Bartlett, O., writes:—"Bees in this part of the country were all wintered on their summer stands, without protection, seldom being confined to their hives more than six weeks without a chance to fly, and not that length of time more than once during the winter."

T. J. Dodds, LeClaire, Iowa, writes:—"My bees have now been in the cellar sixty-three days; all quiet; no signs of dysentery. The thermometer ranges from thirty-four to thirty-eight degrees."

Wm. Faulkner, Vevay, Ind., writes:—"Bees are wintering well here; no disease so far."

E. Gallup, Orchard, Iowa, writes:—"Bees are wintering finely thus far. My bees are on their summer stands. They had a splendid flight yesterday. Those in the cellar are in excellent condition. No danger of bee disease in a mild winter, unless they have very bad management."

A. I. Root, Medina, O., Writes:—"In reply to the lady's query, on page 47 of the last Journal, I would say, we have never found the honey that seemed to disagree with the bees when *confined to their hives by winter weather*, deleterious to the human family at all; on the contrary, it is oftentimes the very best table honey. I never intended to convey the idea that the honey was *poisonous*, only that it seemed to disagree with the bees some seasons; and that sugar-sprup was uniformly healthy for them. We never get bad tasting honey here, but a friend sent us a sample from a distance, saying it would kill bees at any season. It tastes like poor sorghum syrup. We have never had any experience with such honey, but have had bees die badly in March, when fed on very nice, sealed clover honey." "Novice."

W. F. Standefer, Dry Grove, Miss. writes:—"Bees are doing well. Three or four combs of hatching brood, and a few drone cells are observable."

W. S. Boyd, Bethany, O., Writes:—"I have been engaged in the bee business for three years, and when last spring opened, I had only one hive with bees in it, but had invested $92. I bought three hives for $8.75, and now I have seven, and have sold near one hundred pounds of honey. With the aid of your paper, and the knowledge I have gained (which I consider worth more than I have spent for the bees), I intend this spring to buy all the bees I can get at a reasonable figure; and by the use of the extractor, to have something to report to you next fall decidedly in commendation of the bee business."

Thos. J. Cornelius, Ludlow, Ky., writes:—"All the bees in this part of the country are doing finely this winter. We have had no dysentery, and none in prospect."

D. I. Wells, Boliver, Tenn., writes:—"My bees have increased quite rapidly. I started last spring with four black stocks, which increased to ten, and three Italian, which increased to twelve, and one went to the woods. One Italian stock, purchased of Dr. Hamlin the spring before, sent out a swarm on the 11th, another on the 13th, and another on the 22nd of April, some of which sent out one or two swarms, but no surplus honey. Is there any remedy for such behavior? I suppose my bees are all in good condition, as they are flying very freely every warm day, which occurs in our locality every week or two during the winter."

H. E. Curry, Walnut Hills, Cincinnati, writes:—"Bees in this neighborhood are doing well. To-day (Jan. 21), the thermometer rose to seventy-four degrees in the sun, and of course our bees had a good fly—the second this year. The previous one was on Jan. 4. My bees never looked so well at this time of the year, and I have no doubt we will begin the season with every encouragement. Last spring I tried an experiment, at least it was such to me, although the same thing is done in Germany. I found, on examining what was left of my apiary, one hive very weak. I will not pretend to say how many were left, but it was a sorry sight. I first made a box six or eight inches deeper than a one story Langstroth hive, and after putting six inches of manure in the bottom, I set my weak hive in, and then packed the sides and back with the same, so that it was surrounded with manure, except the front. I then put a blanket and mat on the top, and then left it undisturbed. In a few days, on looking into the hive, I was surprised to find what a number of eggs the queen had laid. The decomposing manure generated such a heat, that she did not have to confine herself to just such space as she had bees to cover. In a few weeks it was my strongest hive, and gave me the largest return of any stock I had. I took two hundred pounds extracted white clover honey from it, besides a swarm artificially, and, on November 16, they had at least twenty-three pounds to winter on. Although it will not do to jump at conclusions too suddenly, more especially in bee-culture, I am convinced that those who have weak stocks, in the spring, will find the above a great help with but little trouble. Of course enough of bee-bread and honey, and upward ventilation must be given, otherwise the combs will mould."

H. Nesbit, Cynthiana, Ky., writes:—"Last winter I lost sixty-seven out of seventy colonies, and the three left were mere handfuls.

I bought six small black colonies in June, and now I have twenty-six in good condition, all Italianized. They are now carrying in two gallons of flour daily. Bees are wintering as well as I ever saw them. I have abandoned the bee-house and winter my bees out of doors."

D. D. PALMER, Eliza, Ill., writes:—"The seven diseased hives which I had, are now (Feb. 7) all dead, and fifteen more are diseased. I have seventy-eight left; the most of them look well."

JOSEPH M. BROOKS, Columbus, Ind., writes:—"My seventeen colonies of bees are in the cellar, wintering on sugar syrup exclusively. All are in the best condition, so far."

G. E. CORBIN, St. Johns, Mich., writes:—"By actual measurement, I find that fifteen worker brood-cells made by black bees, span three inches; while fourteen worker brood-cells made by Italian bees, span the same distance. That is, nine square inches of surface of brood-comb made by black bees, contain two hundred and twenty-five cells; whereas, the same surface of brood-comb made by Italian bees, contains only one hundred and ninety-six cells. Does not this difference in the size of the cells indicate a corresponding difference in the size of the bees? I believe the usual process of Italianizing supplies the queen with the combs of black bees only. Is it, therefore, possible to rear full-sized and perfect Italian progeny in those cells? If so, what sized cells will they, in their turn, build? Will some one of experience answer these questions?"

EDGAR MCNITT, Centre Village, O., writes:—"My bees have done very well the past season. I am able to report an average of about fifty pounds of honey to the hive. One hive, furnished with empty combs, gave me three swarms and eighty pounds of honey. Including the increase in swarms, my nett profit for the season was one hundred and twenty-five per cent. Last year I wintered two swarms, one on sealed, the other on unsealed honey, and both came through in good condition. I had a swarm of half-bloods that died while I was trying to Italianize them. There were no signs of dysentery. To ascertain that the honey had nothing to do with their death, I procured a starved swarm, and put it in the depopulated hive without cleaning it out in the least, and the bees flourished as well as any of my other swarms."

JONAS SCHOLL, Lyons Station, Ind., writes:—"I am somewhat in doubt as to the best way of doubling colonies. In the past two years there has not been very good success in this region in the method of taking full frames from a hive to be doubled, and filling out with empty ones. It seems to cut the hive in two. The queen often will not cross the empty space, but remains on one side of the hive. On the opposite side the combs will be filled with honey as fast as the brood hatches, while the new comb built on that side, will most likely be all drone comb. As a strong colony, with a prolific queen, when placed in an empty hive, builds comb rapidly, if the yield of honey is good, may we not conclude that when comb is to be built for all the increase, the best plan is to divide the bees only, not the comb? Bearing in mind that in this locality very little comb is built before May 15, and after June 25, will some practical bee-keeper give us the benefit of his knowledge on this subject? Bees are wintering finely here."

B. G. FORBUSH, Algona, Iowa, writes:—"I am but a novice in bee-culture. One year ago next April, I purchased twenty stands of bees. During the early summer of last year, I increased to forty stands, by artificial swarming. I am surrounded with basswood, but there was a total dearth in its bloom. About the first week in July, I was surprised with the sudden filling up of every available cell of my hives with a very thin, washy, acrid honey, which proved to be sumac honey. I was nonplussed, and wrote to Mr. Gallup in regard to it. He advised me to extract it, and keep it for feeding purposes. I had no sooner begun to follow this advice, when, to my surprise, it was evaporated to a fair consistency, and after six months I find it much less acrid, and good for table use. The months of August and September were gay with golden-rod and many other wild flowers. My hives were soon filled with honey of the best quality, and the hives were literally stuffed with bees and brood. In view of what Prof. Cook says about late brood, I tremble, for there was no speck of brood in my hives after the 15th of September. But I carried my hives into winter quarters full of honey, and populous with bees. I put thirty-two stands in the cellar, with from three to six inches of air-space under the combs, and heavy, white ducking over the frames according to Mrs. Tupper's plan. They are in good condition. I took out about three hundred pounds of surplus honey. Nine "New Idea" hives were left on summer stands, banked up with snow, *a la* Gallup. From this, my first year's experience, I prefer a four thousand inch hive."

JOHN WAHL, Greenfield, Ill., writes:—"Last season I went into winter quarters with forty-one hives, coming out in the spring with twenty-six. I had only four swarms winter on the summer stands. I use the Langstroth hives, of thirteen frames. The last four seasons have been so dry that we have had no flowers out of which to make honey, and so, whatever the breed of bees or the kind of hive used, our failure has been unavoidable."

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

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Honey Markets.

CHICAGO.—Choice white comb honey, 28@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb. Choice extracted honey, 16@18c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenpoint L. I.

The sale of honey is dull here, and a large quantity is now upon the market. The prices rule as follows:

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO. — Quotations from Stearns and Smith, 423 Front St.

Choice mountain honey, in comb, 22½@25c; common, 17@20c; strained, 10@12c, in 5 gallon cans. Valley honey, in comb, 12@17c; strained, 8@10c.

Eight cents is now the fee for registered letters—instead of fifteen cents, as heretofore. Let all register, who cannot obtain a money order, but let none register who can.

Persons writing to this office should either write their name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

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Publishers needing cuts or engravings, will do well to address the Manager of the American Publishing Company, who have a large supply for sale that have appeared in "The Illustrated Journal."

Should any subscriber wish to discontinue taking our JOURNAL, he should address a letter to the Manager, and enclose the amount due, and it will then cease to visit him. Any other course is dishonorable.

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AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CHICAGO, APRIL, 1874. No. 4.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

The Bee Disease.

The question, What caused the loss of so many bees, during the two or three last winters, seems to be attracting more attention, at the present time, than anything else connected with bee culture. And there is probably no other point upon which there is such a diversity of opinion, or upon the proper solution of which, so much depends. That there has been some general cause for the losses which bee-keepers have sustained throughout the Northern States, is too palpable to admit of successful contradiction; but that there has been any cause operating that cannot, with proper care, be remedied by the apiarian, I do not believe. Neither do I believe with some of our apiarians, that the loss was caused by an epidemic; nor with others, that it was the result of the bees eating from honey. I believe that it was caused, mainly, by cold, and disease engendered by the same.

That there was dysentery, I freely admit, for I saw the most convincing proofs of that, among some of my neighbor's bees that died, but in every case it was where bees were wintered on the summer stand, or placed in cold depositories—no better, if as good, as the summer stand. I will mention a few of the many cases that came under my observation last winter:

J. W. Hulet, living about one-half mile south, put his bees, consisting of eight swarms, in a cold shed, filled in with sawdust, four inches thick at the ends and one side, the other side being inch boards. He lost six of the eight swarms by dysentery.

Lewis Skeels, living a short distance south-west, wintered his bees on their summer stand, and lost all he had, by the same disease.

I put eighty-eight swarms in my bee-house, which is frost proof. Three of the eighty-eight swarms were made up of bees taken out of my nucleus hives, at the end of the queen-rearing season. One of the three was queenless, being put in the house as an experiment, and the other two had young queens that had not layed any eggs, so far as I knew, when put into the house. I lost these three, probably from old age of the bees, as those taken from the nucleus hives were nearly all reared during the summer months, and two of my regular swarms by starvation, and that with from fifteen to twenty pounds of honey in their hives, the bees having clustered at one side of the hive, their stores being at the other; and one swarm from some unknown cause. The rest came through in good order. There was little or no appearance of dysentery, the combs of those that died being clean and bright, except where the cluster of dead bees had slightly caused them to mould.

Now, if it was bad honey that killed my neighbor's bees, by giving them the dysentery, why did mine not have it? Their honey could differ but little from what mine had, since they were kept so close together.

Mr. E. L. Arnold, living five miles north, wintered his bees, consisting of twenty swarms, in his cellar, and did not lose any, while his neighbors lost from one-fourth to one-half of all they had.

Mr. J. K. Miller left his bees on their summer stands until some time in January, and up to that date lost seven out of thirty-eight, and a number of the rest were so weak, he thought they could not live until spring. He then put the rest of them in his cellar, and only lost one swarm after they were carried in, and in that he thinks the bees were nearly all dead before they were put into the cellar.

It has been asserted that bees carefully housed, had suffered about as much as those wintered on their summer stands. There may have been such cases, in some localities, but there has certainly been none in this section.

I fear that extracting the honey and feeding syrup, in order to prevent the dysentery, will kill more bees than it will save, owing

to the feeding not being attended to early enough to give the bees time to seal up their stores before cold weather. In most cases, perhaps, there will be no necessity for deferring the feeding until it is too late, but where it is desired to extract the honey that is gathered late in the fall, before feeding, I fear in a fall like that of 1873, where the cold sets in earlier than usual, some of our most careful bee-keepers will sometimes be caught before they are through with feeding. In cases of that kind, I should certainly prefer sealed honey to unsealed syrup.

Too frequent disturbance of bees, after they are housed, is often, I think, a prolific cause of loss. The injunction to "see them often" is right to the point, so long as they can fly out, but when they are housed, my advice would be to let them "severely alone."

We should see that they have plenty of stores, and that those stores are in the right place, before they are put into winter quarters. Also, that the room in which they are wintered, be dark and warm, and the temperature as even as possible. I notice the bees are the most quiet in my bee-house, when the thermometer stands at about forty degrees. If it went much below that, I should want it, as Mr. Quinby says, to go enough above to make that the average. With these things attended to, we shall have but little cause to fear the ravages of the bee disease. At least, according to my experience. JAMES BOLIN.

West Lodi, O.

For the American Bee Journal.

Do Bees Destroy Fruit?

The following letter by Mr. Kruschke and comments of Prof. Riley we publish from the *New York Tribune*, at the request of both parties. Barring the personal feeling, which is too common among controversialists, the articles will be found interesting.

Many complaints have been made that bees destroy fruit. Being a bee-keeper, I consider it also my duty to be a bee defender. Various theories are indulged in. Some assert that bees prevent the fruit from setting; others maintain that bees puncture the fruit when ripe. A correspondent of *The Tribune*, in the fore part of summer, complained that bees destroyed his peaches, and not knowing what to do, asked for advice through your columns, whereupon the learned and wise (?) Prof. Riley took it upon himself to give a recipe, with which to poison the bees, and he also stated that by such management he had known one-half of an apiary to give out. He would have benefitted mankind a great deal more, had he taken a dose of the mixture himself. Does Prof. Riley not know that his bee-destroying recipe has gone before the world, among people some of whom are still more ignorant than himself? Does it not trouble his conscience, to be the destroyer of the most admirable, busiest, and most profitable insect created? And all because some ignoramuses imagine the bees destroy their fruit without any facts for evidence.

In the *Report of Agriculture* for 1871, some state that bees had destroyed their grapes, which led me to take close observation. Accordingly, I took a bunch of Delaware grapes (the tenderest I could get) and put them on the hive, directly over the bees, and watched proceedings, but not a single berry was punctured; then I broke a few of the berries, upon which they immediately went to work and sucked them dry—thus showing that something beside bees must open the grapes, or any other fruit, before they can touch it. Perhaps it is in the growth, or in the weather, or the work of some other insect, but don't lay it to the innocent bee. How is it that we don't hear of such complaints in Germany, France, and Italy, where fruit, especially grapes, are raised so extensively, and bees kept in great numbers? If the bees were so destructive to fruit, would they not have enacted laws long ago, to prevent their being kept? Such is not the case; on the contrary, bee-keeping is encouraged. In Italy there is a law regulating the size of hives and frames.

If these prejudiced complainants would only investigate a little closer, they would see how ridiculous their condemnations appear to a close observer. Practical bee-keepers of America are unanimous in their answer to this question. They declare bees do not injure fruit of any kind. Many of them are extensively engaged in fruit culture, and they say bees help in impregnating blossoms, by bringing the pollen of the male and female blossoms in contact. Finally, I would say to those complainants, Procure and diligently read one or all the bee periodicals published in this country, and thoroughly post themselves on bee culture, and not depend entirely on their own investigations, which is not sufficient, for even Agassiz makes blunders in the bee line.—[*H. O. Kruschke*, Green Lake Co., Wis., in *N. Y. Tribune*, Dec. 31, '73.]

COMMENTS BY PROF. CHARLES. V. RILEY.

In the article which Mr. Kruschke attempts to criticise, I stated that I expected to have most bee-keepers down on me, and his protest is but one of several which, while they charge me with all sorts of ignorance and crime, only betray the ignorance of their authors, and utterly fail to disprove the facts

I have stated. All such protests that I have seen, so far, are marked by passion, bias, and personality, rather than dispassionate argument or presentation of facts.

Mr. K's isolated experiment is interesting, so far as it goes; but "one swallow don't make a summer," and one experiment cannot negative accumulated evidence. All the hubbub in the world, from prejudiced bee-keepers, cannot change facts that have been witnessed by hundreds of others, as well as myself. Bee-keepers may do their best to shear the fact of its importance, but all the most winning sophistry will not annihilate it. They may observe and cover it with the drift of adverse opinion, but, like the bowlder, it will remain unchanged by the superincumbent deposit, and stand forth boldly, long after the evanescent and incoherent surroundings have been washed away by the stream of truth. I am as confident that bees at times cut the skin of tender fruit, as I am that they cut their comb or the caps of their cells; and as Mr. K. does not seem to have much confidence in the reliability of my own observations, I will say that he will not only find proof of the direct injury which bees do fruit in the reports of the Department of Agriculture, but in the reports of the different State Horticultural Societies, and in the columns of industrial journals.

To the last assertion made by Mr. K., I was myself a successful bee-keeper for over three years; and not one bee-keeper of large experience and reputation, has undertaken to controvert the facts I have stated. On the contrary, Mr. L. T. Waite, of St. Louis, Mo., and Mr. L. C. Francis, of Springfield, Ill., well-known as successful and intelligent apiarians, have both admitted the truth of what I wrote; and "Ella," the bee-correspondent of *The Chicago Tribune*, whom I know to have large experience, in a recent discussion of the question, says: "Whatever our opinions may be, they must at least yield to stubborn facts, and, in case such facts, are presented to a court of justice, there can be little doubt that the bees will be convicted." A whole volume might be filled with evidence in support of my position, from reliable observers; but, not to waste more time, let me say to Mr. K., as to another article in *The Rural New-Yorker* [in answer to another correspondent of the JOURNAL, viz: Chas. D. Hibbard, who also has something to say against "this sapient Prof. Riley"—C. V. R.], that "in advising extreme measures in an extreme case, I by no means make general war upon bees: for I have too long communed with these busy little insects, not to have an admiration for them as great, at least, as that professed by some of their more noisy champions.

"If, in exceptional seasons, when no flowers offer their coveted sweets, these bee-keepers who have large apiaries, with fruit-growers for neighbors, would properly feed their bees, said neighbor would have little cause to complain." Mr. L. B. Hogue, of Belmont Co., Ohio, in *The Tribune* of July 23d, last, suggests as a remedy for the difficulties which fruit-growers experience from the bees of negligent and careless neighbors, that, instead of fly poison or the planting of *Asclepias*, a few acres of catnip (*Nepeta*) be planted for bee-food—an excellent suggestion, providing it is made to the bee proprietor, and not to the fruit-grower; for the latter must not be expected to take care of the former's property.

REPLY BY MR. KRUSCHKE.

Since the above was in type we have received the following reply from Mr. Kruschke:

In reply to Prof. Riley, Mr. Editor, I would remark that he says that he expects bee-keepers will be down on him. Well, I would like to know how many horticulturists have thanked him.

Not only bee-keepers are down on him, but all peace and justice loving persons must criticise him, for any such course as he advises would bring enmity and discord among neighbors, even if bees were guilty of puncturing fruit. It would be no more just to kill bees than it would be to kill cattle if they break into another man's enclosure.

He compares my *isolated* experiment with "one swallow," etc.; but the Prof. has not even a single "swallow" to offer in his argument, and says one experiment cannot negative accumulated evidence. But I say a single demonstrated fact is worth more than volumes of theory to the contrary; and theory is all the evidence he has to offer. When Galileo, by the means of his telescope, demonstrated to the world that the earth moves around the sun, his single *isolated* experiment upset all the volumes of theory accumulated on that subject. When Columbus sailed westward, and found land beyond the waters, his demonstration negatived all theory to the contrary.

So I, with a single experiment, overthrow all presumptive evidence to the contrary. For I have not, and do not presume the Prof. has, heard of or seen a like experiment proving the contrary. He calls my experiment *isolated*. I would like to know on what the Prof. bases his *confidence* concerning the fruit-destroying propensities of bees? Seeing bees on fruit is not proof that they puncture it. The question to be answered is simply this: Has he seen bees in the act of cutting the skin of the fruit? If he cannot answer affirmatively, all his gushing about a bowld-

er, truth, etc., amounts to nothing, for it may prove a volcano. It is not necessary for me to consult horticulturists, or horticultural works, for they can offer no positive evidence, and I shall accept no one's *ipse dixit*. The same is true of those bee-keepers he refers me to—they merely admit it as possible, but I can give him the names of ten bee-keepers who deny the charge, to his one who admits it, but I should consider neither evidence, unless they have tested it as I did.

The advice given by Mr. Hogue, of Ohio, in the New York *Tribune* cannot be praised too highly, while his (Riley's) cannot be too severely condemned. The former will give equally satisfactory results whether practiced by a horticulturist or a bee-keeper, for catnip will grow with as little trouble as milkweed. His experience and experiments with bees must have been with a view of destroying them, since he knows so well how to do so; but he says he *loves* them and does not make *open war* upon them. Well, no; it cannot be called warfare, but a *cowardly assassination*, criminal in its nature.

I shall continue my observations every fall, and at times when there is little or no bee forage, and if I find that bees cut the skin of grapes I shall acknowledge it. But shall not then indorse bee-destroying recipes and catnip culture. More might be said, but this is already too long. H. O. KRUSCHKE.

For the American Bee Journal.

A Cheap and Good Feeder.

It is an infringement on Novice's. We use a good many of the ordinary self-sealing tin fruit cans, and each year my wife discards some that have been used and become a little rusty. Then with a punch of any kind, or an ordinary jack-knife, I make a number of holes in the lid or cover of the can, fill the can with honey or syrup, put on the cover, invert, and place over a hole in the honey board. The honey will not run out only as the bees eat it out. As these cans are thrown away, the only cost is punching the holes in the cover. These cans hold three or four pounds of honey, and cost, when new, from six to twelve cents. Mr. Grimm told me his improved Novice-feeder cost twenty-five cents each. If the price were the same, I think I would prefer his.

ANOTHER.

When feeding a very small quantity for stimulating purposes, when the weather is warm enough for the bees to remain at or near the entrance, I use ordinary sauce dishes. Put in two or three table spoonfuls of diluted honey, set the dish at the entrance, and if the bees do not immediately attack it, tap on the hive. Of course it will not be long till the dish is filled with drowned bees, but in a little while bees and dish will be cleaned off perfectly dry, the bees none the worse for their sweet bath.

C. C. MILLER.

Marengo, Ills.

Index to Back Volumes.

As a matter of reference I have always kept an index of back volumes at the front page of my latest volume of the AMERICAN BEE JOURNAL, so that by reference to it, I might find any important item in any of the various volumes. I find it almost indispensable in my search. I send you a portion of the items found in the letters H and I.

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Repeated observations show that the secretion of honey is powerfully influenced by the electricity of the atmosphere: and bees never labor more actively than during humid, sultry weather, or when a thunder storm is approaching.

For the American Bee Journal.

The Bee Disease in Western New York.

As my experience with the bee disease (so called by many good apiarians) has been of a character not to make its repetition desirable, I propose to give a few facts connected therewith, hoping that some of your correspondents will correct me if I have arrived at a wrong conclusion.

Our apiary is located on the western slope of the Genesee, about seven miles west of the river, in a line not far from one mile north of west from the village of Geneseo. Although during cold nights the mercury in the thermometer sinks several degrees lower on the flats than on the uplands, yet, owing to protection of these flats from winds, in the middle of clear, calm days, the temperature at times was of sufficient warmth to admit of bees flying, whereas at the distance above mentioned they had no opportunity to leave their hives from late in the fall till the latter part of winter, consequently when the opportunity did come what had not been frozen out were in an emaciated condition and hardly able to regain the hive after once leaving it.

Thus reduced in numbers, they were unable to recruit, and consequently, they gradually dwindled away, leaving the hive well stored with pollen, comb and honey. Out of an apiary of over sixty colonies in the spring of 1873 we had but one swarm left.

Our neighbors fared no better, for throughout the length and breadth of this elevation of country—bordering both sides of the valley—from Ontario to Pennsylvania, (a part of the fairest and most fertile section of Western New York,) the same scene of disaster and desolation to a greater or less extent prevailed, and bee-keeping received a blow from the effects of which it will require some years to recover. Piles of empty hives stood where was once flourishing apiaries, and the busy hum of millions of industrious workers was hushed, and silence reigned supreme.

From the facts above stated I am led to believe that the great loss of bees throughout the country was by protracted cold weather without any favorable opportunities for purifying flights. In the valley proper, the loss was not above the usual average as they had several chances to fly, and consequently came through strong and healthy, but as you traveled east or west from the river, the elevation gradually increasing, the greater would become the loss, till you arrived at what migth be termed the dead line.

Another circumstance which serves to confirm me in the opinion that there was no epidemic, is that I took some bees with frames of comb left by bees which had died from the disease the winter before, to a person in Avon, who hived into them new swarms, which came out in the spring in fine condition, strong, healthy, and without any sign of disease. I again have all my hives and combs refilled with bees and never had them do better than they have done the past season.

I will close by saying that if re-using hives and combs from which bees died out the season before, will not spread and propagate disease could there have been any epidemic connected therewith? When with due care we can count on wintering our bees with as small a percentage of loss as on other live stock, then will bee-keeping be established upon a surer basis, whereas, of late hundreds of dollars have been invested in the business, from which there has not been received any adequate returns. C. R. Isham.

Peoria, Wyoming Co., N. Y.

Berlepsch on the Culture of Rape.

In order to make the introduction and culture of rape successful I have gathered testimonials in regard to its value as a farm crop, and honey plant, from the rape growers in Wisconsin. I have also written to Mr. Berlepsch, and received the reply which is given below. Since it is the most important report, and testimonial from such high authority concerning a honey plant, ever given in the American Bee Journal. I thought it of sufficient interest to publish. It will surely be found interesting, and will encourage the culture of rape, which, I am quite certain, can be made a success, here in America, as in Germany.

Berlin, Wis. H. O. Kruschke.

Munich, Bavaria, Feb. 8th, 1874.

Dear Bee Friend:—Your appreciated letter of Jan. 19th, is at hand. . . . . In reply to your question, I would say, that I can answer you with certainty.

During the years—between 1841 and 1858—that I was a practical agriculturist, I cultivated rape (see pamphlet) to a large extent, and can, in consequence thereof, and from knowledge otherwise gained, testify most assuredly, that in all Germany there is no plant yielding more honey than rape. I know of instances, occuring in my own experience, where a very populous colony of bees, during the time rape was in blossom, gained a weight of twenty pounds and over in one day.

On the tenth of May 1846 there was near me a sixty-five acre field in blossom. The weather was excellent, and my strongest colony, which I placed on a platform scale, gained that day over twenty-one pounds in weight. I know only of one other plant that can be compared with rape as a honey-yielding plant, and that is esparcet. It is probably the best fodder-yielding plant for cattle and sheep. It flourishes on the poorest soil, if only not wet, and from ten

to fifteen years without re-sowing, and yields enormous quantities of fodder.

Concerning the value of rape as a farm crop, I can say it is very great, often yielding a net income of $32 per acre. The soil however must be rich and well tilled.

AUGUST, BARON VON BERLEPSCH.

For the American Bee Journal.

California for Bees.

MR. EDITOR.—I see in the February number of the JOURNAL an inquiry if this part of the world is good for bees, and in answer would say that I believe it is the best in the world, both as to quality of honey, quantity and healthiness of bees. In support of my assertion will give my reasons for making them.

In the winter of 1871–2 I bought eight stands of bees in box hives, transferred them into the American hive, and in May I divided each hive, making sixteen. I put them on a little place I put up at the foot of the mountain, as I was then suffering from a cough, caused from a wound received through the lung at the battle of Shiloh. I thought I would rusticate a few years, if I lived; but when the warm weather came on I felt so much better, I left the bees and ranch and went to town, leaving my bees in charge of a neighbor who lived a half mile away, I instructed him to put on extra boxes, and did not return until the last of July, when I found them all full. I took out all the honey I could, without disturbing brood nests, and fitted up a lot of extra boxes, and melted out the honey in the sun, as I then had no extractor, and left my bees again in the care of the neighbor, and did not return till the last of November, when I found all full again, and I went through the same process of pruning, and took the honey to market, and found I had 3,500 lbs. of good white honey, which I sold for 12 and 13 cents per lb.

I remained on the ranch that winter; and in the spring transferred all my bees to the Langstroth hive, and divided, so that I commenced the season with thirty-four swarms, and increased to fifty, and by using an extractor and remaining with the bees through the summer and giving them the attention I could, which was but very little on account of ill health, I got 7,000 lbs. of extracted honey of a very superior quality. I got from one swarm that came out in May, 402 lbs. of honey in comb, and left it in fall with twenty-two frames full of honey and brood.

I would like to make arrangements with some firm in the East to ship my honey to in the barrel, and have them bottle it and put it on the market for me. I am satisfied that the poorest honey we have will compare with your best basswood. Honey was very dull sale here last year. J. W. MONTGOMERY.

San Bernardino, Cal.

For the American Bee Journal.

Feeding Bees.

While I thank Mr. Marvin very much for his proffered instruction, allow me to say that our kind reporter made a mistake in reporting me to have said, "is there a remedy" for irritating bees, while shaking them from deep combs. I have no deep combs, and never expect to have. I would much rather use the Bingham depth of five inches, than fourteen.

I have all pure Italian bees (thirty-three colonies), and having no blacks to contend with, had thought of propagating queens for the market, but now am determined to purchase twenty or forty colonies of black bees for next season's operations, and practically test the superiority of the Italians (if they have any) over the blacks,—all things considered. Shall allow no increase from either; shall keep all in the same yard; give all equal chances.

I hold (with Mr. Dadant) that sugar is not honey, until it goes into the honey sack and becomes acidized. Hence bees should not be wintered on sugar poured into the combs, but on sugar *honey* made by feeding in the fall. My experience leads me to say, that all kinds of out-door wintering is good, that will give the bees plenty of oxygenized air of a temperature not lower than thirty-five degrees Fahrenheit. Have not heard of any such, however.

If Mrs. Harrison will take a two-quart fruit jar, and punch about seventy-five holes the size of a pin, through the cover, and then after filling the jar, screw on the cover, and insert through a hole in the honey-board, or cover, she will have a twenty-five cent feeder that will feed as little as she pleases, and will feed in autumn, enough for wintering in seventy-two hours, or three such on a hive, will feed the same in twenty-four hours. You can see at all times, just how business progresses. Have used the Grimm feeder with perforated tin, instead of wire, screen. For spring feeding, punch only ten holes. I have only inch holes in my covers, so I make a hole just the size of the jar top, through a board 6x6x¾, and place this over the inch hole and insert the jar, which will not blow over, and leave a half inch space between the hive cover, and perforated jar cover. The same may be put over a slot in the honey-board. I used twenty-four such, to feed winter stores to sixteen colonies, the past fall. I believe (after much experience) that making hives double wall, is throwing away money. They are not as durable as single wall hives, and in no way any better. Have tried hundreds of each, side by side, and the above is *our* experience.

Dowagiac, Mich. JAMES HEDDON.

For the American Bee Journal.

Letter from Kansas.

THE PROPER MAN.

A few days ago I received a letter from Mr. A. Chapman, of New Cumberland, West Virginia. He speaks of a man that met me with a lot of queens on my way home from Kelly's island. Then he asks me "who the proper man is to write to, to get queens from there, and whether I think the queens raised there are pure." He then goes on to say that "he thought Mr. —— the proper man, and ordered a lot of queens of him, which, however, he regarded as impure, and he feels very much aggrieved." All of which questions we are unable to answer, because we are not the "proper man," and have never been to Kelly's island, nor received any queens from there. If the man that obtained a lot of queens at the Island, will answer Mr. Chapman's questions, no doubt he will take it as a favor. We find no fault with queen breeders that live up to their contracts, but when they advertise that they warrant the queen to be pure, and when they do not prove to be such, will furnish other queens, or refund the money, we naturally understand from such a contract, that we are buying queens that have not been tested, and take the chances.

If every one in a dozen should prove to be hybrids, we have no business to complain, if the money is refunded, or other queens sent, as we may elect. But would we not naturally come to the conclusion that if a large majority of the queens sent out by any breeders, were impure, that he was not the proper man? In buying that kind of queens, we are well satisfied if three-fourths or more of them are pure. But in ordering *tested* queens, it is a different thing. The breeder in that case cannot make you good by either refunding the money or furnishing you another queen. If the queen should prove to be impure, you have sustained a damage equal to the value of the queen, or more, besides having your money refunded.

THE MELIPULT.

I was sorry to see the opinion of Mr. Adair, thus: that the "extractor has been overrated. If bee-keeping is to be made a success, it will not be accomplished with the use of the Honey Emptying Machine." This decision, however, is logical, from the standpoint of the *melipult*. Will not somebody furnish the General with a good, common Honey Extractor, without so many scientific principles about it, as the "melipult?" That machine, we believe, would be a success in scattering hayseed among politicians.

WINTERING BEES.

What is the cause of the dysentery? Now who would not like to know that; and how to winter bees without loss? The causes are laid down positively by Mrs. Tupper. "Too much honey; too many old bees; too much cold; too much disturbance." Mr. Quinby agrees with her, as far as the cold is concerned. And Mr. Root, with his sugar syrup, without *acid*, has the panacea. But what seems the strangest of all, is, that bee-keepers wont believe it. There is no one that has faith in another's theory, and it is a mooted question whether success in each case depends solely on *faith* or merit in the prescription. Now, if it was the cold, the disturbance, the old bees, too much honey, or bad honey, why was it that my bees all wintered safely too years ago? All old bees—some full of honey, some nearly empty—swarms of all sizes, and disturbed every few days? But last winter, with my bees in the same cellar, treated the same way, only not disturbed as much, two-thirds of them or more had the dysentery, and last fall they were breeding a month later than the year before! Hives of all conditions were among the eighty that were put in last year, and those that escaped the dysentery, were some of the very smallest swarms. Some of the best and heaviest, and some medium, including four or five hives that were supplied with sugar syrup without acid, was among the first to die. As Mrs. Tupper says, they "miserably perished" every one. I might say here, that I was not testing the sugar syrup, because I had faith in it; but, from the fact that I had orders for more honey than I had a surplus to fill, extracted several hives clean, to get enough to fill the last order, so that a want of faith could not have been the cause of my failure.

RAISING BROOD WITHOUT POLLEN.

I take the negative side of that question. I tested it last season, by confining a queen on a frame, with young bees that had never had access to pollen, and they could proceed no farther than merely hatch the eggs. But a swarm of bees that had been feeding young, might have prepared food enough in their stomachs to raise a large number of bees, if confined to a hive that has no pollen in it. If pollen is not necessary, what fools the bees are for collecting it.

RECIPE FOR FOUL BROOD.

We noticed in the JOURNAL for November, a sure cure for foul brood, which being a compound of some nine different ingredients, we think would either kill or cure; but it looked to us as though there must be some mistake. Three of the ingredients amounted to eighteen pounds, which, with the rest, were to be pulverized and put in a flask, with a quart of brand, but it would take a pretty large flask—at least one that would hold four gallons, and then a quart of brandy would not moisten the compound; in fact, we think it would

not more than lay the dust on the top. We look for more light on that perscription.

THE DYSENTERY.

We are satisfied that this is a disease that no one yet knows how to cure or prevent. We find at this writing (Dec. 16) that the dysentery has commenced among our bees. There has been no very bad weather yet—the coldest day was not more than ten or twelve degrees below the freezing point. We now have our plans in readiness, and we will, this winter, test two entirely new methods of wintering, and if either of them prove a success, it will be known in due time.

N. CAMERON.

Lawrence, Kansas.

For the American Bee Journal.

Our Queenless Colony.

All wise apiarians agree, we believe, in recommending that a colony queenless at the approach of winter, be united with another colony—the weakest you may have.

But if your other colonies are all strong, are quietly clustered, and in all respects have been cared for as well as your knowledge and situation will admit, do you improve their chances for successful wintering by disturbing their slumbers and unnecessarily augmenting their number?

This question we found ourselves called to consider, when, on the first of November, the murder of their new queen had left No. 7 in a hopelessly disorganized state. The weather was cold. Our well-regulated colonies were sound asleep. It would require at least three of these to provide room for our rebels. Should we disturb them? And should we trust their queens—beautiful Esther, dusky and capricious, but sprightly and interesting Cleopatra, and our well-beloved Eve—in the presence of these regicides? We decided that we would not.

Another course of procedure was to shake the bees from their combs, upon the snow, thereby saving some thirty pounds of honey. I cannot say this plan received much consideration. As what might be done by a stern old veteran bee-keeper, it was alluded to, and its comparative profitableness admitted. But our organ of destructiveness is too small for such heroic action, and not for one moment did we fancy ourselves capable of it.

On the discovery of our second loss we had dispatched a somewhat frantic appeal to Mr. —— for another queen; but this was done as a drowning man catches at straws — quite hopelessly.

So, at last, we found but one course left to us—to take as good care of the colony as possible and wait for spring. We were the better satisfied with this decision, that a suggestion to the same effect accompanied Mr. ——'s reply to our request for another queen. To this was kindly added the promise of advice as to management in the spring. Thus encouraged, we began to regard No. 7 in the light of a new study, and, if the whole truth be told, with more of interest than either, or all, of our six more hopeful and praiseworthy colonies could elicit.

During November, which with us was extremely cold, the queenless colony were in a constant state of agitation. How to keep them dry, and sufficiently cool—for when the mercury went down to the neighborhood of zero, they were reasonably quiet — was a constant study. The entrance was shaded, but seldom was there a day so cold that a a few bees did not find their way out, to perish in the snow, while in moderate weather the number thus lost was somewhat appalling. Whenever, after severe cold, the weather moderated, they impressed us as having rediscovered their queenless state.

About the first of December we discovered at the entrance a number of immature bees. On examination these proved to be tiny drones—a little thicker, and a trifle shorter than workers. The first warm, sunny day thereafter, Dec. 4, we eagerly improved the opportunity afforded for a peep inside. On the central combs we found hundreds of the dwarf drones, for the most part rather young and downy, but evidently in good health, and very much at home. Of course they had been reared in worker cells; and we puzzled ourselves with conjectures as to whether the bees knew what they were about. Were they quite satisfied with the questionable shape in which their carefully nurtured brood had emerged? And could we hope that the experiment had taught them anything, or must we look for a continuation of this profitless brood rearing? We saw at this time no larvæ, nor did we notice any eggs. There was one large, clumsy, half completed queen cell. We made a careful search for a young queen, (albeit we could not understand how there could be one,) and finally concluded that our little drones must be the progeny of a worker. From this time until Dec. 16, there was little change. As before, the bees were noisy and restless; as before they came forth daily to perish on the snow. Had not the colony been of unusual strength in the beginning, we fear that our experiment, in this way, would have come to an untimely end.

Dec. 16 was warm; and again we opened the hive. We were gratified to learn that no more little drones were being reared. There were, however, plenty of eggs — some cells containing a dozen. Many of these seemed shriveled, the same cell often containing two or three fresh ones. Opening another hive, I was fortunate enough to find some nice looking eggs, properly arranged, Cutting out a piece of comb containing about fifty

eggs, I inserted it in a comb belonging to the queenless colony. Would they recognize the superior value of these eggs, and properly care for them? I was curious as to this, but had nothing further in view. Three days later these bees had become as quiet as those of our other colonies. The mortality occasioned by their leaving the hive suddenly ceased, for they suddenly ceased to come forth. We marvelled greatly, and were happy enough when on Jan. 3 we were able once more to investigate.

On examining the piece of comb inserted Dec. 16, we found to our chagrin—nothing. Greatly disappointed for the moment, we proceeded to lift the next comb. Here we found a little capped drone brood, in drone comb. Near the center of this was suspended a long, slender, capped queen cell! The bees seemed to be deeply interested in it, and clustered about it so thickly that it was with some difficulty that we assured ourselves that the cap had a brownish and soon-to-be-lifted appearance.

"Have you your penknife, Nellie?" I eagerly demanded.

Nellie answered my query by coolly taking the frame from my fingers and carefully dropping it into its place.

"I think we will leave her to introduce herself," she said gravely. "These bees are so very peculiar and punctilious,—they might object to taking her from the point of a knife!"

"But," I remonstrated, "the cell may contain only a dead or dying drone; I should have found out."

"You don't think so, neither do I, neither do the bees, evidently; and you don't want to risk bringing about a relapse from the quiet of the past two weeks, to the old discontent and restlessness — you know you don't."

Nellie sometimes forgets she is my junior, but, in consideration of her ordinary docility, I usually yield to her upon such occasions, and console myself for the temporary abnegation of authority by holding the reins a little tighter when I recover them.

In the present case I only remarked mildly, "Well, admitting that a worker egg was carried across from the piece of inserted comb, and successfully deposited in the queen cell, what has become of the remaining forty-nine (more or less) worker eggs?"

"Oh," said Nellie, "they only succeeded with the fiftieth egg; the remaining forty-nine didn't bear transportation."

"An explanation more convenient than probable, I suspect."

"Well," said Nellie, "I *can* suggest another—shall I?"

"Certainly; why not?"

"Because it is rather shocking. Perhaps the eggs *were* hatched. Somewhere, I have seen a suggestion, or an assertion, to the effect that for the compassion of royal jelly, young larvæ—"

"That will do, my dear; I remember! I very much prefer your first explanation."

We closed the hive with the mental agreement that it would be well to search for our hypothetical queen on the next warm day.

Such a day—a day both warm and still—came not until Feb. 28. But with it, alas! came company; guests whom, on ordinary occasions, we delighted to honor. As it was—well, we womanfully choked down our bitter regret that our friends had not chosen washing day, or any other day but this—met them smilingly, and entertained them as best we could, while the warm, sunny hours of the afternoon—hours that for weeks we had sighed for—passed by, and our opportunity was gone!

We console ourselves only by reflecting that spring is at hand, and the colony is still alive. That it is much reduced in numbers, we must admit; but, we, nevertheless, regard it hopefully. The bees that we see at the entrance are, now, as bright, as small, and as active as their more favored neighbors. In any event, we shall not change our present opinion—that for truly *enjoyable* winter bee keeping, a queenless colony is indispensable!

CYULA LINSWIK.

For the American Bee Journal.

Clipping Queens' Wings;

SIZE OF HIVES; "NEW IDEA" HIVES; AND OTHER THINGS.

At the late meeting of the North American Bee-Keepers' Society I read a paper on the Wings of Bees, showing that they must be important organs aside from their mechanical use as organs of flight; in fact that they are a *part* of the pulmonary system, and that any injury to the wings must affect the strength and value of the queens. Mr. Root, in his "Gleanings," without publishing the paper at all, says I say that "bees breathe through their wings," leaving it to be understood that I state that they compose the entire lungs, when any one who will read the paper will see that I take no such position.

I wrote to Mr. R. an explanation of his error and suggested to him that it would be fairer for him to publish the paper so that the readers might judge for themselves. He publishes a part of my letter, only. He still refuses to publish the paper, for which he gives the following reason in his February number. He says:

"We declined publishing the paper then, and do now, on the ground that *very few people indeed are capable* of deciding what is truth and what is error in the microscopic world," and he goes so far as to take to task

the *Rural New Yorker* and other papers, for publishing it, because, as he states it, "mankind are so prone to take up and disseminate error," etc. Now it seems to me that Mr. R. is assuming a censorship over the press that is not called for, and is assuming a dogmatic position that he would condemn in others. It has been but a few months since in criticising me and the "whole popular science world," as he called it, he very learnedly quoted a Latin maxim, "*magna est veritas et prevalebit*," which might be paraphrased, and if not more original, be equally truthful, "*magna est vanitas et prevalet*," for self-sufficiency must prevail to an alarming extent with any one who pronounces "very few people capable of deciding what is truth," etc., and believes that "mankind are so prone to take up and disseminate error," etc., and relies on his own infallibility as one of the "few capable" of dictating what people should read.

Are the "people" who read the bee journals and the rural press in need of such censorship? I had come to the conclusion that bee-keepers as a class had more than an average of intelligence, even in a country like ours, where the government is based on the intelligence of the people as a whole, and where the freedom of the press is based on the theory that falsehood and error can do no harm where free speech and an unshackled press have full license to combat them, for as Mr. R. says, "Truth is mighty and will prevail."

Mr. Root makes a quotation from "Carpenter on the Microscope" confirming the description I give of the wings, except he says, "This circulation [he is speaking of the blood and not of the nervous or pulmonic system of the wings], may be seen readily in the wings of bees young and growing, ... those organs especially which are peculiar to the perfect insect being then in a state of rapid growth and having then a vigorous circulation of *blood* through them; *but this movement soon ceases and the wings dry up.*"

The last italics are Mr. Root's. I might reply to this in the language of Mr. Root by calling it "sheer folly" or "twaddle" or some of the hard names he so freely applies to all that differ with him, but I cannot believe that Carpenter is a fool, (I believe folly is defined to be "the acts of a fool,") or that it is "idle silly talk," which a "tattler" is guilty of, for he would likely be surprised at the use that Mr. Root made of his language, so contrary to the observations of every other eminent naturalist.

In the larva state the bee is composed of thirteen segments, eleven of these have each two spiracles or breathing holes, one on each side of the body. As it approaches the pupa state these spiracles are gradually obliterated and grow up, so that all of those on the segments that finally form the abdomen disappear, and those on the thorax are alone left. As the bee approaches the pupa state there appear on the thorax over four of the anterior spiracles little pad-like projections which are the wings doubled up in wads, which may be seen through the pellicle that envelopes the pupa at that time. This skin sloughs off in the semi-pupa stage and releases the wads, and it is at this time that Carpenter says that the "circulation may be readily *seen*," as then the wings are but a pulpy mass and so translucent that there is no difficulty in observing the circulating fluid, for the circulation is "then vigorous" to promote their development and "rapid growth." "But this movement soon ceases and the wings dry up." Of course they do, for the limp, pulpy mass assumes a different consistency and develops the complicated elements of the wings, and there is no longer any necessity for an excess of moisture in the wings. The circulation is thence *hid* from sight inside of the horny tubes and under the covering of minute hair-like *papillæ* that cover the wings. And this is all that Carpenter means to say.

One other statement of Mr. Root deserves a little notice. He says:

"So far as eminent naturalists and entomologists are concerned, we have only to say it will be the worse for *them*, if they endorse the paper in question, and its *winding up especially*."

Now as friend R. is the only *naturalist* among the many who have read the paper who does not endorse it, the "whole popular science world" must be in a bad fix. I can't tell how he intends to punish them, but I suppose he will publish them in the "Humbug and Swindle" department of his *Gleanings*. Would not it be a sad spectacle? But what is the winding *up* of this paper that he condemns as "specially" outrageous? The last paragraph is the statement of a fact that has been settled among naturalists for a long time: i. e. that the bee inflates its body with air when about to fly, so as to decrease its specific gravity, and assist it in flying This is not only applied to insects, but ornithologists state that birds do the same thing, even filling the hollow barrels of their feathers and quills with heated air or gas. In this fact lies a very strong reason why the wings of insects should perform the office of lungs, for when the body is inflated there are valves at the openings of the spiracles that close and retain the air, just as in holding the breath, so at the very time that free respiration is most needed, it is impeded most, unless the wings perform the office of pulmonary organs; for the blood always flows more actively to the members of the animal body that are most in exercise.

The great difficulty with Mr. R., and all of the unscientific, is that they overlook the fact that nature accomplishes the same end by very opposite and diverse means. Because

man and the higher animals have certain parts of their structure specialized as lungs, they infer that every thing that breathes must have like organs, and that the functions cannot be exercised by any other. The special breathing apparatus of worms consists of simple filaments placed on the head, and they do not take air into the body at all, and in addition to these filaments, the whole surface of the body serves as lungs, so that if a worm be cut in two both parts will live, and become independent animals.

St. George Mivarts, in *Nature* for December, 1873, p. 108, says our skin is by no means popularly credited with the great importance really due it. "Only the skin!" is an exclamation not unfrequently heard, and wonder is very often felt when death supervenes after a burn which has injured but a comparatively small surface of the body. *Yet our skin is really one of our most important organs, and is able to supplement, and to a very slight extent to replace, the respective actions of the kidneys, the liver, and the lungs.* (*See Huxley's Elementary Physiology*, Lesson V., §19.)

The same authority tells us that, "In the frog we have this cutaneous activity developed in a much higher degree. . . . Its *respiratory* action is both constant and important. This has been experimentally demonstrated by the detection of the carbonic acid given out in water, over the head of which a bladder had been so tightly tied as to prevent the possibility of the escape of any exhalation from the lungs. The fact of cutaneous respiration has also been proven by the experiment of confining frogs in cages under water for more than two months and a half, and by the cutting out of the lungs, the creature continuing to live for forty days. Indeed, it is now certain that the skin is so important an agent in the frog's breathing that the lungs do not suffice for the maintenance of life without its aid."

The only argument that Mr. Root uses against the theory is, that practical experience disproves it, and he gives instances where queens have been prolific afterwards and lived a long time. Mr. I. L. Davis, of Michigan, appears in your February number with an instance of the same sort. But I can not admit that the instances cited by either have any weight, from the fact that the hives in which the bees were kept required no great vigor in the queens to keep up the population and to swarm, and the fact that such queens lived from three to six years proves nothing, for it is not contended that it will take their lives. My experience is that queens with mutilated wings most generally live longer than those with perfect wings, just as you see many unhealthy men that exert themselves but little, outlive the more robust and vigorous, not so careful of their vital force.

It is now conclusively demonstrated that the conditions under which we have been keeping our bees have restricted the queens, and that in properly constructed hives, with management adapted to their nature and instincts, the fecundity of the queen is incredible. Some two years ago I published a small book drawing the attention of apiarians to what has become known as the "New Idea Theory." It has been much ridiculed by Mr. Root and others, but that has not prevented its successful use all over the country. I will not go into the details of the theory here, as this article is already of a tedious length. At the late meeting of the North American Bee-Keepers' Society, when the subject of artificial swarming was under consideration, I gave a statement of the main points of it. In the synopsis of the proceedings as published, it is too much abreviated to give a fair understanding of it. I therefore send you an extract from the full report, giving the whole of it, and as it will answer many questions continually asked me, and at the same time show Mr. Root and Mr. Davis, why I do not consider their reported instances as tests of the wing theory, request you to publish it in full. If you have not room for it in the same number with this, give it in your next, if you please.

D. L. ADAIR.

Hawesville, Ky.

For the American Bee Journal.

Murdering Bees.

Under this heading the February number of the AMERICAN BEE JOURNAL copies an article from the *British Bee Journal*, in which an English bee-keeper relates that the bees of one of his straw hives destroyed each other, and says that the murdered bees are of a smaller size. The editor of the *British Bee Journal*, in answer says, that he has experienced the same with his bees and that he thinks it is on account of their small size that these bees are murdered.

I have seen sometimes a similar accident in my apiary, several years ago; and I searched for the real cause. Having movable combs, I have not been long in ascertaining it. The bees killed were very young, and the murderers were the oldest. These old bees were not killing their sisters to rid the hive of them, but the young were starved by the famished gatherers, which could find nothing in the fields and nothing in the hive to appease their hunger.

I have ascertained that the newly hatched bees consume more honey in the first fortnight of their life, than they have consumed from the egg to their last transformation. The newly born bee is very small; after two days it is very big, even bigger than the old

workers, and for fifteen days it eats plenty of honey and bee-bread, to perfect and harden its organs. During that time it remains in the hive and nurses the larvæ.

When the crop of honey fails, and when there is nothing to eat in the hive, the old bees seem irritated to see these young bees so fat, so well filled with the product of their work, and they force them to give back the honey that they have in their stomachs. The poor young bees are pinched and tortured until their stomachs are empty. Then they run into every corner of the hive to escape from their tormentors, which, still famished, do not leave them till they are starved to death. Then the poor young bees, which were so fat, in well provisioned hive, have their abdomens shortened and curved inside. When they are in such a state, it is impossible to restore them to health. I have tried it in vain. When I have encountered similar accidents, I had seen the provisions of the colony several days before, and it seemed that they were sufficient for the brood; but the brood after hatching, ate so much that the bees were starving, and the young were sucked dry by the old. For five or six years I have never seen such a case; for I take the greatest care to see that my bees have enough honey for their young.

In the case alluded to, the correspondent of the *British Bee Journal* says, that the massacre took place at intervals of one week or ten days, especially on Sunday. Some ultra Christian will probably think that these bees were killed because they had worked on the holy day. But the naturalist will, no doubt, think with me that the massacre happened on the day when nothing was found in the fields by the bees; and as our mother nature does not know the seventh day, the lack of honey in the flowers must come from some natural and not miraculous cause.

When a similar accident arrives, the surest and quickest way to stop the massacre, is to give the colony one or two good combs of honey. No doubt a few of the bees, too much famished, will perish; but the murdering will be stopped instantly, and the colony saved. CH. DADANT.

Hamilton, Ill.

DESTROYING MILLERS.—Mr. Philipson, an extensive bee-keeper of Genesee county, Michigan, says: "In the evening, place a shallow dish filled with thin tar in front of the hives, with a small lamp so placed in the center of the dish as to bring the light near the tar. The millers being attracted by the light dive for it and go into the tar. In a short time all the millers in the vicinity of the apiary will be caught."

Artificial and Non-Swarming. The "New Idea" Theory and One Story Hives.

AN EXTRACT FROM THE UNPUBLISHED TRANSACTIONS OF THE NORTH AMERICAN BEE-KEEPERS' SOCIETY, AT LOUISVILLE, DECEMBER, 1873.

The question under consideration was, "Is artificial swarming as good or better than natural swarming?"

D. L. Adair.—Moved that the Society answer in the affirmative.

Winder.—Why? We should give some reason for such an answer.

Adair.—Because natural swarming is always the result of disorganization, and a colony of bees in a properly constructed hive, properly managed will not swarm, while it admits of extensive multiplication of stocks, by artificial means, without materially injuring the old colony; and as long as such a hive is so managed no drones will be produced, and all the comb built will be worker comb, and no attempt will be made to build queen cells.

A. J. Murray of Tennessee.—Did not think that giving the bees room would prevent swarming. While in the Confederate army he assisted in cutting a bee tree in which he found two colonies in one hollow, the only division between them was the direction of the comb; and in another cavity in the same tree there was a new swarm that had taken up its quarters, which he supposed had swarmed from one of the others; yet there was plenty of unoccupied room in the large hollow.

Adair.—Still the queen may have been crowded for room.

Murray.—Knew of another colony that passed through a ventilator tube in a house, into a large room, where they located themselves and they swarmed. They certainly were not crowded.

Adair.—The extent of room, however great, will not prevent swarming, unless other conditions are present. It is the circumscribing of the brood nest that produces disorganization, and whenever the queen produces more eggs than she has room in the brood nest to deposit the proper balance of the hive is destroy-

ed, and it will result in the disorganiza tion that produces swarming. In the spring, when the queen is laying but little, the brood nest is small. The queen begins at a given point to lay; first occupying a spot of about one and one-half inches in diameter on each side of one sheet of comb; then taking into her circuit a point opposite on each side of the two adjoining sheets. Around this centre she continues to lay, gradually enlarging the nest for twenty-one days. At the end of that time the young bees produced from the first eggs laid begin to emerge from the cells and she returns to the centre to begin her circuit anew, filling each cell as it is vacated. Around this brood nest the bees fill the cells with bee-bread and outside of that honey. (Bees never deposit bee-bread away from the neighborhood of brood.) Thus a brood nest is formed and if nothing obstructs it, will extend equally on all sides of the point at which the queen began to lay, and as the cells around it are filled with food, when she again reaches the circumference she finds her limits restricted. By this time, honey is coming in freely and she is stimulated to produce more eggs than she has cells to receive them; the perfect balance of the hive is destroyed and preparations for swarming is the result, and even though the colony were located on the ceiling of this large hall, they would swarm just as certainly, for the queen would be as much crowded as if she were in a small hive.

To questions asked, he said that the remedy for this was to have a hive so constructed that it will admit of pushing apart the frames, in the middle of the brood nest and inserting empty sheets of comb, if early in the season, but if the bees were in a condition to make wax rapidly, then empty frames were best, as the bees would fill them with comb as fast as needed by the queen. It is important that the inserted frames, whether empty or with comb, should be placed in the middle of the brood nest, and not to one side, as the queen will thereby be induced to occupy them solidly with eggs, and while she is doing that, the bees emerging from the cells in the comb forming the old nest will be giving more room, and greater fecundity will be the result; when, if the frames are inserted to one side, she will be slow to occupy it, and before she can do so it will be filled with bee bread and honey.

When the queen has thus, at intervals, been given all the room she can occupy, and all compactly together, it is not probable that any further care will be necessary to prevent swarming during the honey season, provided, there *is enough room in the same chamber* to furnish room for the work of all the bees she can produce. Room given in boxes or top or side apartments will do no good, for the bees will not work in them freely, and whenever the brood chamber is filled to the ends, the bees will double back on the brood nest, and, as they find empty cells in it, will pack them with pollen and honey, and in a little while the brood nest will be reduced in size so that the queen will be again crowded, and the swarming impulse brought on from the disorganization so produced.

The hive should be of one story, and long enough to be certain that it will afford sufficient room for the work of the enormous colony of bees that will soon result from such management. By careful estimate he had found in a single colony, so managed 170,000 bees. In it there was no drone comb constructed during the season, and not a drone was reared in it; and, although drone comb was placed in the brood nest, the queen did not lay in it, but the bees filled it with honey.

An ordinary hive with a broad chamber of 2,000 cubic inches capacity will not accomodate exceeding 20,000 bees with working room. Whenever it much exceeds that number a swarm is cast, regardless of the amount of room there is in the top or side apartments. For while there might be room for storing honey, the nursing bees and wax producers would be crowded into the brood chamber, and however large the brood nest may have been at first, it will soon be filled with stores, particularly bee-bread, and swarming is bound to result. Even if the bees do work in the boxes and the wax-workers and honey gatherers are drawn out of the brood chamber, it leaves the hive in

scarcely a better fix, for the nursing bees are left to crowd it, and the pollen gatherers will not store the bee-bread away from the brood nest, but near to the larvæ to be fed; and as they will gather more than can be used in rearing the limited brood that can be hatched in so small a space, the comb soon becomes packed full of it. The bees will remove the honey from the cells in the brood chamber to make room for it, and the bee-keeper will be pleased that his boxes are being so rapidly filled. But the bees swarm. Not a bee is left in the boxes. They are taken off, full of honey perhaps. He looks into his brood chamber, and what does he find? Somewhere he finds a few patches of brood mixed in with cells full of bee-bread, and perhaps the greater part of the comb stuffed full of bee-bread,—there is bee-bread everywhere, enough to feed a hundred thousand larvæ, instead of the few thousand that they have left cradles for. The melipult will not extract it, and perhaps it is left in during winter, excluding the weak colony from the cells, and they have to live as best they can between the cold sheets of pollen, or more likely entirely die out before spring, from cold and starvation.

This picture is not overdrawn, for every experienced bee-keeper has seen hives in that condition, without being aware of the fact that it was the fault of the hives, and not of the bees.

A Member.—What is the shape and size of the hives you use.

Adair.—The hive should be long, and as wide as the length of the frames.—The frames to set in it crosswise. If the frames are large the hive need not be so long. The entrance should be at only one end. *This is important.* But there should be *two* holes, three-eighths of an inch by three inches, and about five inches apart. The brood nest should be in the middle of the hive, and *in no event* should the bees be allowed to fill the hive, so as to reach either end, for as soon as they do, they will double back the honey and crowd the brood nest.

Murray.—Will a queen that lays so abundantly live long? Will she not soon become exhausted?

Adair.—She will not live long. At the end of the second season she will likely be worthless. The ovaries of the queen have the germs of a certain number of eggs in them, and, when they are laid, no more can be produced, and she should be superseded whenever she begins to decline in fertility, for when she begins to fail, preparations will invariably be made for swarming.

Murray.—What do you gain then if it shortens the life of the queen?

Adair.—You gain a great deal. A hive so managed produces as much in one year as, under the swarming system, it might produce in four or five, and it is but little trouble to have young queens to supply the places of the old ones.

A Member.—In what shape do you get your surplus honey; in the comb or extracted.

Adair.—Some of both; but comb honey is the most profitable, and the bees will make more dollars' worth of it, in most seasons, but he would not be without the melipult, as it could hardly be dispensed with.

A Member.—How do you get your brood nest in the middle of the hive? Will the bees locate it there?

Adair.—The bees will locate it as near to the entrance as they can. In the hive he uses, the frames are closed at top, bottom and sides. He can hook together any number of them, closing the ends with glass in the summer, so that the hives can be easily examined. In winter, he closes them with straw or shuck mats. He hooks together, at first, enough to accomodate the bees with room for a few days, and until the brood nest is established. When the bees fill them too *near* either end, he adds more on the ends to give room for the workers and in the centre to enlarge the brood nest, and afterwards, as often as demanded, so that the queen never wants for room, nor the workers for space to build comb and store all the honey they can gather.

A Member.—How long is your hive?

Adair.—At first he thought that a hive three feet long would be sufficient, but found it too small. He then made them four feet long, holding thirty-two frames ten by thirteen inches inside.—

This is large enough, when the extractor is used or the comb honey is taken out often, but he had used them twice that size and had the bees to occupy all of the frames but five or six. Five feet long, with frames of that size, will do if attended to, but they must be larger if the honey is left in them.

A Member.—If your bees don't swarm how do you increase them?

Adair.—He made artifical swarms, and could increase his bees faster than from smaller hives, as the material was so abundant; for a nucleus, or even a good swarm, could be taken out without reducing the colony to the dimensions of the strongest colony you can have in a hive of ordinary size, and without materially checking its productiveness. He generally formed a nucleus of two or three sheets of brood, one or two of empty comb and one or two entirely empty. He hooked them together, set them in the cellar or a dark room for three or four days, then set them out, and as soon as they raised a queen built them up by adding brood as near maturity as he could get. The surplus queen cells were used in forwarding others. He had made as high as eight artificial swarms out of one hive, at one time, giving each a queen cell. With the addition of a little brood about the time the queen becomes fertile, they soon become strong colonies. Of course in such instances the parent colony was reduced to a small size, and was materially checked in productiveness, and it took them some time to recover.

For the American Bee Journal.

That Patent Bee-Feeder.

The March number of the JOURNAL is just received, and of course is devoured at once. Friend Kretchmer, on page sixty-six, refers to my article on "Mr. Adam Grimm's Bee-Feeder," and says the feeder was patented May 6, '73, and speaks about the perforated screw cap. The *cap* is *not* perforated in Mr. Grimms' feeder, as friend K. will see if he looks the article over. I certainly should not have given a description of it for all to use, had I known it was patented. Mr. Grimm uses a good many of them in his apiaries, and told me I could make and use as many of them as I chose, for the feeder was one of his *own getting up, and was not patented, and would not be by him.* Any one was free to use it. He certainly did not know any one had a similar feeder, or that it was covered by a patent. Will Mr. Grimm please notice this, and explain the matter to us? I see in the advertisements, Mr. K. has his feeder described as using "water, syrup, honey, or meal, and ventilates the hive at pleasure." A different feeder altogether, from ours, which is not calculated for feeding meal, and is no ventilation whatever, to the hive.

We have had a mild winter, for bees in this part of the country, so far. A part in houses, packed in straw, of about a foot on all sides, with cloth quilts on, summer entrance open, with wire cloth tacked over them. One lot were shut up just one hundred days, and came out strong, bright and clean, with few dead bees. While some that were wintered on their summer stands, lost a large share of their bees. Some writers speak about banking their hives in snow. That might do in Minnesota, but not in Illinois, for we only have a few inches, generally, and that is liable to disappear in a few days.

W. M. KELLOGG.

Oneida, Ills.

For the American Bee Journal.

Plants For Bee Forage.

MR. EDITOR:—It would be an interesting item of information which *every* correspondent could communicate through your columns, if from all localities, they would give your readers an account, if only in a very few words, of the *plants*, with dates of beginning and ending of flowering season, which serve for bee forage in their neighborhoods. It would be interesting to note the quality of the honey made from different flowers. Many plants, whose flowers furnish either pollen or honey, are overlooked because either the flowers are inconspicuous, or do not constitute a very important element in bee-forage. Often are some of the earliest flowers, particularly of trees overlooked, because the spare honey is not obtained from them, although they are among the most essential to success. Furnishing early forage, they give the nourishment which is needed to get all things ready for the real honey-gathering we are more immediately interested in. Many a locality produces no spare honey, or very little, just because no good, early forage is at hand. In other places, as soon as bees can fly abroad in spring, they can obtain all they need to stimulate them to build up the colony to a good working condition. I repeat it, every contributor can give at least *one* item of interest, if he tells us, in order, what bees gather stores from in his region, from first to last.

Lockland, Ohio. JOHN HUSSEY.

American Bee Journal.

W. F. CLARKE, Editor.

Bee-Stings.

One of the most formidable hindrances to the extension of bee-keeping, is the fear of being stung. If you suggest to any one well situated for the purpose, the advisability of starting an apiary, most likely the objection will at once be made, that the wicked little creatures are so mischievous with their stings, that there is no desire to have anything to do with them. The impression many people seem to have, is that the chief mission of the bee is not so much to store honey, as to sting all and sundry. Bee-keeping will always be confined to a select few, until popular mistakes are corrected, and more light is diffused in regard to this affair of stinging.

As a matter of fact, bee-stings are "like angels' visits, few and far between." It is only now and then that any one is punished thus, even in localities where large numbers of bees are kept. When it is considered that ordinary colonies contain twenty or thirty thousand bees, and that the population of, say forty hives, is about one million, it must be evident that stinging is a rare and exceptional thing, and so far from its being the chief business and constant aim of these insects, it is very seldom resorted to. Were it otherwise, and as too many unreflecting persons think; were bees as apt to sting as musquitoes are, it would be absolutely impossible to keep an apiary.

All creatures have means of defence furnished them adapted to the repulsion of those enemies by which they are likely to be assailed. Self-preservation is the first law of nature. Man is the chief enemy of the bee. Though this busy little worker is intended to do important service for the human race, it must have protection against the very beings whose interests it is meant to serve. If bees were as harmless as flies, no honey would be stored for mankind. Their operations would constantly be interfered with. Every schoolboy and little child would so "meddle and muddle," that the order, discipline, industry and usefulness of the hive would be destroyed. The sting is therefore a beneficent provision of nature, without which the bee could not accomplish its mission or fulfill its destiny. Some exceedingly scientific apiarians, indulge the dream of being able some day, to breed out the sting, or at any rate, the disposition to use it. Whether this dream will ever be realized, is a very doubtful matter, and whether its realization would, on the whole, tend to advance the interests of bee-keeping, is perhaps even more doubtful.

Some people affect to despise a bee-sting. We do not. A bee-sting is no joke under any circumstances, and under some circumstances, it is a very serious and painful affair, as we can testify from personal experience. In parts of the human body, where there are important blood-vessels and main lines of nerves, near the surface, causing the poison to act quickly and spread rapidly, a sting is sometimes dreadful, especially if inflicted at a time when the virus injected is more than usually powerful. For it is well known by experienced bee-keepers, that the poison is more virulent at some times than it is at others. We were once stung in the central point of the upper lip. The poison took immediate effect, and spread with astonishing rapidity, upward to the head and downward to the throat and stomach. The pain was excruciating. Sickness, burning fever and various alarming symptoms quickly resulted. It was three or four days before the effect of that one sting passed off. There have been cases in which a single bee-sting has caused death. It is therefore no sign of wisdom to ridicule the matter, but rather to estimate the thing as it really is, and endeavor to guard against it.

Intelligent acquaintance with the habits of the bee, and the use of proper precautionary and remedial measures, will either prevent stinging altogether, or will secure immunity from any serious and fatal consequences.

In the first place, it should be distinctly understood, that when bees are out foraging, they are too intent on their work to sting, unless they are interfered with, fought at, crushed, or made fast in some way. If human beings would mind their own business as dilligently as the bees do, it would be well

for them. Quarrels and disagreements would seldom occur. It is perfect folly to start with affright at the presence of a bee. The music of their industrious hum, as they fly from flower to flower, loading themselves with honey, should no more awaken fear than the noise of a loom, a spinning-jenny, or machinery of any kind. If you meddle with the works, you may be hurt, and the same is true of the workers. But let them alone, and you are safe enough in both cases. Nor is there unusually any danger in quietly watching bees as they issue from and return to their hive. The stupid practice of hurrying about and striking at any bee that may happen to come near, is a sure way of exciting anger and provoking the infliction of a sting. Quiet movements, avoidance of all striking, standing stock-still, with the head slightly hung down, if the bees exhibit any signs of excitement and anger, will secure exemption from all harm. Even if pursued by enraged bees, gliding into a thicket of bushes, and remaining there a few seconds, will be found a sure means of escape.

The utmost liberties may be taken, and the most delicate operations performed among bees, with due care and precaution. As they are excessively nervous and irritable creatures, nothing should be done in a hurry. All sudden jars and rude movements must be avoided. They must be dealt with most gently and tenderly. Any kindof smoke is an effectual means of subduing and quieting them. It will prevent their becoming excited, and reduce them to composure even after excitement has commenced from any cause. Bee-keepers who smoke tobacco, are accustomed to employ the fumes of their favorite weed for this purpose, and it accomplishes it very effectually. But it produces a stupifying and irritating effect afterwards. Smoke from chips, saw dust, cotton rags, or even paper, will answer as well. The most convenient source of smoke is a bit of dry-rotted, hard wood, or "punk" as it is sometimes called. It burns without flame, will keep alight until the whole is consumed, may be laid close at hand, and readily used whenever wanted. When there is a necessity for opening a hive, it is well to blow two or three puffs of smoke in at the entrance; within five minutes or so, it will have taken effect. Then with slow and cautious movements, the hive may be opened. Usually a quiet, contented hum, will show that the inmates are peaceable. But if there is excitement and more or less rush hurridly out, a few additional puffs of smoke will reduce them to submission, so that it will be safe to proceed. Care should be taken not to crush or kill any of the bees. The slaughter of a single one will sometimes enrage a colony, previously quite docile. But should such an accident occur, a fresh dose of smoke will restore order.

Smoke is thought to have two effects. First, it creates a slight panic among the bees, leading them to fill themselves with honey, and in this condition they are no more disposed to sting than an Englishman is to quarrel just after eating a good dinner. There is a sense of fulness, contentment and satisfaction. Secondly, it neutralizes the poison-odor. Anger causes bees to elevate their tails, and a tiny drop of poison will ooze out, the odor of which rouses the war spirit. The same effect is produced when a bee is killed. Smoke counteracts this odor, and so induces quiet. There is a third effect of smoke which may be brought about, though it is not good policy to have recourse to it, because it leaves them cross and irritable. A strong dose of tobacco, or puff-ball smoke, will absolutely stupefy them, so that they will drop from the combs, and lie harmless and helpless at the bottom of the hive, until restored to their senses by fresh air.

Bees employ a substance called propolis to fasten frames and fill up crevices in the hive. In hot weather this is quite soft and waxy, but in cool weather, it becomes hard and brittle like glue. In opening a hive and taking out frames, the propolis is of course disturbed, and when it is hard, this cannot be done without some jarring. To avoid this as much as possible, it is advisable to use a form of hive and style of frame that can only be glued very little; and also to open the hive and operate upon it in the middle of the day, and when the weather is warm.

We advise bee-keepers, and especially beginners, to use a veil and gloves. They give confidence, induce calmness, and guard

against accident. A veil may be readily made of net or thin gauze, and the best gloves we know of, are the cheap harvesting ones made of sheep-skin to protect the hands from thistles.

Various remedies are used to antidote bee-stings. Any alkalie application is good. Common washing soda and blue-bags, are generally at hand, and may therefore be recommended. A drop of honey, a little garden soil, spirits of hartshorn, alchohol, and tincture of iodine, are among the external applications advocated. In severe cases, a dose of whiskey or brandy is said to be good. A wet sheet pack is also recommended. But we have discarded every other application since becoming acquainted with a German remedy lately introduced. A drop or two will remove all trace and effect of a sting in a very few minutes. It costs but a trifle per bottle, and a single bottle will last a bee-keeper for a lifetime.

The A B C of Bee Keeping.

CONDUCTED BY PROF. A. J. COOK.

ARTICLE I.

Of course I have wondered why the wise managers of the dear old BEE JOURNAL, chose me from all the fraternity to conduct this department. I suppose the answer would be suggested by the oft repeated assertion of school directors: "Any one can teach our school, they are all beginners." But, slyly, they are fooled, for our best educators think that those just commencing need the wisest instructors. So all will see that there is one joke connected with this department, however dry it may be in the main.

BEGINNERS.

Who are they, who should be eager to lend me their ears each month, whom I am to lead understandingly into the ways of pleasantness, and the paths of rich pecuniary reward? All, I answer, whether in country or town, who have space for one or more bee-hives, who are not now keeping bees, and who desire either more money or more pleasure, and who can give a few minutes weekly to pleasure and to profit. Especially farmers, who need something to supplement, their regular business, and add to the length of their purse. I am a teacher, yet last year, by spending not more than an hour a week, from May to October, and even that only when I needed the rest and recreation, my three colonies of bees netted me over $100.00, and all may do this, if they will but inform themselves, and work intelligently. That able bee-keeper, Mr. E. Rood, so long the genial President of our State Society, used to say no one should keep bees, who could not make a neat hive. I have heard others say no one should become a bee-keeper who did not enjoy being among bees. But I would say: Let all keep bees, who have a taste for the wonderful in nature, which they wish to gratify, or a desire to "inflate their individual currency," which may thus be done with perfect safety.

But, say the eager ones, how are we to commence? Just what I am about to explain to those who will attend. And more, I will warrant success to all who will heed and obey. First, as a preface to your beginning, subscribe for the AMERICAN BEE JOURNAL, and purchase either Langstroth on the Honey Bee, or Quinby's Mysteries of Bee-keeping. The first to be carefully read, the second to be studied and kept ever close at hand for reference.

HOW TO GET THE BEES.

A beginner should be satisfied to begin with about two colonies. If you can find some one who has bees in movable comb hives, that suit you, for sale, by all means take them. If the hives do not suit, it will be cheaper to get those in box-hives, as in either case, you would wish to transfer them into a suitable hive. But you ask, What is a suitable hive? It must have movable frames, and then the more simple the better. Discard all doors, drawers, traps etc., which only involve expense, and are worse than useless. I prefer a square frame, say a foot each way, as permitting the most compact arrangement for wintering, and as less apt to be severed from its full comb, when handled or placed in the extractor. Those who know nothing of hives could not do better than send to A. I. Root (Novice) for a two story Gallup hive for a sample, and be sure to get the tin corners for the frames. His bent tins on which the frames are to rest, you can, as you make a hive, replace by a narrow strip of heavy tin, which you can easily tack on. This is cheaper, and I think just as good. Also replace the old honey board by Novice's quilt or a piece of old carpet or heavy cloth which will do as well. I am thus particular about hives, as very much depends on a correct start in this direction.

HOW TO SELECT THE COLONIES.

Go to the Apiary on a warm day, note those hives from which the bees rush out as though they were packed, and from such select your two colonies; for the beginner especially, should have none but strong vigorous colonies.

Your colonies home, (it will be well to place them where they are to remain for the summer, on separate stands four or five inches from the ground, a board standing off a foot or more from the entrance to the ground, facing the east, and set under a tree or bush, that they may be shaded from the sun during the heat of the day,) you had better feed them every day or two, a little syrup made either from brown or maple sugar. This will stimulate to a rapid production of brood, the great desideratum at this season. A cheap, easy way to feed, is to take an old oyster can, melt both ends out, then tie a piece of factory over one end for a bottom. If you have a movable comb hive, cut a flap, by cutting on three sides, out of your quilt or carpet, just the size of the can, turn this back, and set the can on and turn in the syrup. The bees will sip up the fluid as it oozes through the factory. This is covered by the upper story of the hive, or the same that covers the boxes in summer. The can may be as easily placed on the holes in the top of a box hive and protected by the same box that covers the honey boxes in the season of gathering. This feeding had better be continued sparingly till the fruit trees are in full bloom, and even afterward, if there are several successive days too cold for the bees to fly, or if there are no flowers to gather from.

But you ask, How am I to get the bees into my new hive? As soon as the bees are busy gathering honey, select a bright warm day, and when the sun is well up, and the bees all at work, don your bee hat and gloves, for every beginner should protect himself, and with a burning piece of rotten wood or roll of cotton cloth, blow some smoke into the entrance of the hive, keep doing this for five minutes, then invert the hive and place a box, previously prepared, at least of the capacity of a half bushel, and which just fits the hive, on top of it, wrap a cloth about the lines of junction, so that no bee can possibly get out, then rap on the lower hive with some small sticks for twenty or thirty minutes, paying no heed to the many bees constantly returning from the field; at the end of this time, take off the upper box very carefully set it on the old stand, and so raise it up that the "uots" can go in. Take the old hive, with the few still remaining bees, and carry it to some close room. Doff hat and gloves, for these bees will not sting unless pinched, and with hammer and axe pry the old hive carefully apart, striving not to break the comb. With a long knife cut out the cards of comb, entire if possible. Take each as it is cut out, place it on several thicknesses of thick cloth, which rest on a board say two feet square, which in turn rests on a barrel. Place a frame on the comb, and cut the comb so that it will just fit in the frame. Place the comb in the frame and fasten in by winding with two small wires or strings. Do so till all the comb is neatly and carefully fitted into the frames. Be very careful not to injure the brood. Carry the hive, with its frames all in place, and quilt on top, back to the stand, set it on a board, with the front raised, say a half of an inch, place a wide board in front, and taking the box (you now have the veil or hat and gloves on,) shake all the bees on to the board close up to the hive. They will soon take possession, and feel entirely at home, and show their appreciation of their new home, by going speedily to work. In three or four days they will have fastened in the combs, and you can, protected and armed with smoke, proceed to take off the strings or wires. In all your handling of your bees be careful not to make a quick motion, nor jar the bees. If afraid, remember you are well protected and forget that you have any nerves. Do all this and keep studying your book, and in the next I will instruct you further.

Questions and Answers.

CONDUCTED BY CH. DADANT.

INTRODUCING QUEENS.

"What is the best mode, for a beginner, to introduce an Italian queen?"

J. E. B., Nauvoo, Ills.

As soon as the Italian queen is received, hunt for the black queen and take her out. Then put the Italian queen in a cage made with a piece of wire-cloth, about eight meshes to the inch, four inches square, and rolled in the shape of a tube. Both ends are stopped with a bit of corn cob. The cage is put horizontally between two brood combs, one inch or so under the top bar, and as much as possible against sealed honey, which should be scratched a little, so that the queen can feed herself, if the bees don't take this care.

The next day, remove the cage, and replace one of the hoppers with a bit of sealed honey. Put the cage back in the same place, and shut the hive, acting very quickly. The bees will suck the running honey, and cut the damaged cells. Some of them will cut at the cage and will caress the queen, who will go out very quickly and be well received.

The theory of introduction is fixed upon this fact, that if the bees are unaware of the call of their queen, they will construct no queen cells, and will more easily accept a strange queen, than if they had commenced their preparations to take a queen; and in the second place, if the colony is quiet, without robbers, and the queen herself quiet, too, she will not be considered as a strange bee.

As it is necessary to avoid robbing, when you open the hive the second day, if you have been annoyed by robbers, while hunting for the black queen, it is safer to wait until evening, when the bees are all at home. Yet the operation is more easily performed at midday, and the robbers are little to be feared, if you act quickly, although quietly.

"I see in the AMERICAN BEE JOURNAL, that Mr. Furman, and several other bee-keepers, at the meeting of the Iowa Central Association, have said that pure honey would not become candied. My expense is altogether different; I have quite pure honey entirely granulated. Can you give me your experience on the subject?"

J. M. A., St. Louis, Mo.

The honey from rape, granulates very quickly. I have seen, in Italy, such honey, gathered in April, granulated in the combs in August. The honey from clover, melilot, lucern, sainfoin, linden and buckwheat, granulates also, although not so fast as the rape honey; while the honey yielded by several trees does not granulate. I have seen honey as good and as liquid, after two years, as if it was newly gathered. It was acacia or locust honey.

Therefore, the granulating of honey does not indicate its want of purity; on the contrary, in France, where the best quality of honey comes from sainfoin, the thorough and even granulating is considered the best test of purity.

For the American Bee Journal.

Simple Bee Feeder.

A very simple, and at the same time effectual, feeder may be extemporized by filling a glass vessel (a tumbler or a fruit jar is best) with honey or syrup, placing a saucer upon it and quickly inverting them. This allows the bees to take the food from the entire circumference of the vessel without their becoming daubed with the liquid, which may be made thick or thin as desired. Any number required may be quickly and inexpensively obtained in the dining room of any family. By using glass vessels the bee-keeper may tell at a glance how fast the food is being taken, and which need refilling. Of course they must be placed on the top of the hives or frames and securely covered to prevent robbing. Many feeders are based upon this same principle of atmospheric pressure, but none are more effectual, simple or inexpensive.

DR. D. R. PORTER.

Manhasset, Long Island.

Swammerdam found nearly four thousand cells built, in six days, by a new swarm consisting of less than six thousand bees.

Voices from Among the Hives.

CH. DADANT, Hamilton, Ills., writes:—"Bees are wintering finely."

JOSEPH A. HART, Craig, Ind., writes:—"Bees are wintering better here, than for many years past."

A. F. HART, Appleton, Wis., writes:—"Bees seem to be wintering here very well, although we have had a long winter."

H. O. KRUSCHKE, Berlin, Wis., writes:—"The JOURNAL improves with every issue. It has got into the right hands at last."

D. S. MCCALLUM, Hornellsville, N. Y., writes:—"I have about eighty swarms of bees, and they have wintered finely."

R. R. MURPHY, Fulton, Ills., writes:—"Bees have wintered well in this part of the country, and the prospect is more encouraging for bee-keepers, than for several years past. The white clover has not winter-killed the past winter, as it did the two previous ones."

DR. JARED P. KIRTLAND, East Rockport, writes:—"As I am over eighty years of age, and have ceased to cultivate bees, I wish to be considered on the list of retired apiculturists, like my friend Mr. Langstroth. I began the pursuit in the summer of 1810, and with the exception of a very few years, have continued it till very recently."

J. A. MAXFIELD, Saxon, Ills., writes:—"Bees have wintered well, with me. I lost twenty-one swarms last winter and spring, leaving me three swarms. I increased them to six, and have wintered in the cellar for four winters. The first winter and this they wintered well. My cellar is under the kitchen, and was built on purpose for wintering bees. There are not fifteen swarms of bees within three miles of me. My bees are all black."

D. H. KELLER, Duncan Falls, Ills., writes:—"Last winter, I lost a few hives by placing them too close to the damp stone wall in our cellar, where they became wet and diseased. This winter, I put other hives in the same place, placed coffee sacks over them, leaving the tops off, and they did not become even damp. So it would be well to note, that after all, ventilation is what saved them this winter, and no ventilation killed them last winter. My cellar is a very dry one. I tried an experiment as follows: I set a strong hive in the middle of the cellar, covered it with a blanket, closed the hive below, and then put the lid tightly on the blanket. In about a week I examined, and found that the lid was covered with large drops of water, and the blanket was becoming wet. I then removed the lid, leaving nothing but the blanket on top. All went right from that time. I set them out about the middle of February, and they are now (March 3d) all alive. I have forty-nine stands."

P. D. JONES, Mt. Morris, N. Y., writes:—"I wish to make an inquiry in regard to extracting honey in the spring. Can it be done? I have fourteen swarms that are in good condition at the present time. I have examined five or six of them, and find they are breeding finely, but I think they have too much honey. I have estimated it to be from twenty-five to fifty pounds to the hive. I have kept bees for the last twenty years, and have never had them winter on so small a quantity of honey as they have had this winter. It seems to me, if there was less honey and more empty combs, that they

would build up faster than in their present condition. The honey is of a good quality, and very thick. The question with me, is, Whether the honey can be taken from new combs without destroying them. The combs are very white, and easily broken. I have never used the Extractor; in fact, I have never seen but one, and that a home-made one. I desire information from those that are not interested in the sale of machines. I am wintering my bees on their summer stands, by driving stakes in the ground, one foot from the hives, and packing with flax-straw to the top of the hive, on all sides, except the front, which I leave open. I give no upward ventilation. I use the American and Langstroth hives. Last winter I lost fourteen out of twenty swarms, with a disease entirely new to me, but have seen nothing of it as yet, this winter, and hope that I never shall again."

THOS. HUTCHINS, Wyoming, Pa., writes:—"I am what you would call a careless bee-keeper. I have about ninety hives of bees. Some in the American and some in the Queen hives; but most of them are in the Quinby hive. I am living in Wyoming Valley, Luzerne Co., Pa. We have not had a good bee season here for the last five years. There are no basswood or linden trees in this locality. Buckwheat and white clover are the principal honey producers. Honey varies here in prices; the nicest box honey brings from thirty-five to forty cents. The most I ever got from one hive, was forty pounds, fourteen-pound boxes. That was from the Quinby hive. It seems almost incredible to me when I here of such large yields of surplus honey, in other localities, to keep bees. The winter here has been very favorable for bees, not being very severe; but we are now having very cold weather, to what it has been the past few months. Last winter I lost forty stocks of bees, the weather being very severe. My opinion is, that when bees are strong enough, and left on the summer stands during the winter they do the best; but all late and weak swarms I put in my cellar, it being very dry, turning my hives upside down. I feed them about every two or three weeks. I feed them syrup made of two-thirds "A" sugar, and one-third water, boiled and strained. I feed them by pouring it in among the bees. I see by your JOURNAL, that some feed their bees in November. Is it because they have no honey? If they have honey, do they want feeding? I think it would be small business to rob them of their honey, and have to feed them sugar syrup or any other food."

A. R. RICH, Metamora, Ill., writes:—"The winter thus far (January 17th) has been very moderate, and my bees are weathering it very well out of doors. I have always wintered in the cellar heretofore—or rather tried to do so—but I think that in reasonably mild weather the bees are better off outside. I have most of mine in straw hives, and think them superior on many accounts for both winter and summer. Fully nine-tenths of all the bees in this section of country froze to death, or died from some other cause, last winter. Some persons made special preparations for winter, others made none, with perhaps no perceptible difference in the result. The most successful man I have heard of in this region, however, had his bees in rickety box hives, on the west side of his smokehouse, which stands right in the teeth of the northwest winds. The hives stood on a bench nearly three feet from the ground, and, in some cases, the front edge of the hive projected five inches beyond the edge of the bench! He lost not more than one in five or six. Another neighbor, who had graded Italians, got through the winter with nine out of twelve, but before swarming time he lost all but one. In all the other cases, except my own, the bees were blacks. I predict—that is, I simply guess—that there will be this present winter far less loss in this region of country than for two years past. My own bees, and I presume it was the case generally, kept breeding for nearly three months later in the summer and fall than heretofore, and went into winter quarters with a goodly number of young, strong and healthy bees, and I hope there will be less freezing this winter and less loss next spring. I increased my four stocks to twelve, got considerable extracted honey, mainly from heartsease and buckwheat, and it is that kind of honey they are wintering on now—the same that gave them the dysentery two years ago."

SEYMOUR RUGGLES, Saratoga, N. Y., writes:—"The bee business in this section, is in a very backward condition, with few exceptions. Many use box hives, without a chance to put on boxes, unless put on the outside of the hives. They leave their bees on the summer stands through the winter. I have noticed this winter, some bee-keepers had hives without bottoms, set upon four one-inch blocks, protected from west winds only. I don't see how bees can stand such an airing. I could not winter bees that way, unless the hives were large, filled with comb, and colonies very populous in the fall. The fact is, most bee-keepers around here know nothing of modern bee-keeping. I informed one man not long since, that he ought to have Quinby's or Langstroth's book, and the AMERICAN BEE JOURNAL. 'Oh,' he says, 'they want money for their books, I can get along without them.' The same afterwards said the drones laid all the eggs. Last fall I set box hives in the cellar; January 23d set the bees out at 12 o'clock, it was warm and still, 58° in shade, at 2 p. m. it was cloudy, and a furious wind arose. Many bees were blown away, as they were flying quite briskly. The next day I set the box hives back into the cellar. They have not shown any signs of dysentery, whether in the cellar or out, up to this date (March 10). Mr. Perry, the only person here, besides myself, that uses movable comb hives, had 1,400 lbs. honey in glass boxes last year. He has 80 colonies, winters in cellars, but never saw Quinby's or Langstroth's book or the JOURNAL. It has been a favorable winter for bees so far."

E. S. FOWLER, Bartlett, O., writes:—"There are no bees kept in this part of the country (save what few I keep) in movable frame hives, except as the farmers keep them the old fashioned way. We have never had bee cholera or dysentery as an epidemic except the winter of '68 and '69. It was not an unusually cold winter with us, while the winter of '72 and '73 was the coldest for ten years or more without any dysentery; hence the cold weather theory don't suit my experience. I have always been able to produce dysentery by leaving a colony queenless for two months, before the time they quit breeding in the fall.—Old bees not wintering as well for me as young ones, at least I am not able to give another reason for the difference. I have no reason for doubting nor any experience to confirm the opinion that the honey gathered some seasons is not healthy for the bees. Perhaps different causes operate in promoting and aggravating the disease in different parts of the country—hence the different opinions. Let us not be in too great a hurry to see who will have the *honor* of guessing right first."

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

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AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CHICAGO, MAY, 1874. No. 5.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Items from Argus.

MR. EDITOR:—Your remarks in the Febuary number on bee meetings are to the point, and demand the attention of every bee-keeper, inasmuch as it is for their interest to meet, tell their experience, compare notes and criticise. A bee friend suggests that every Town, County and State ought to have meetings as often as desired, and that delegates be sent to the State Convention, and let these again send delegates to the National Convention, having their expenses paid.

In this way the best talent will be collected, when subjects of the most importance will be discussed, and a greater interest awakened, and, too, the published reports of such meetings will be of far greater interest as well as benefit to every progress-loving bee-keeper. As a rule, so little has been done at these meetings it really did not pay for the time and money spent. And another thing: some of the ideas advanced are not fit to be published unless we intend to progress crawfish fashion.

Take for instance the Convention at Topeka, Kansas, held last September (see AMERICAN BEE JOURNAL for November) where some new ideas were advanced that may lead to a "*great discovery in apicultural science.*" Mr. Meador says after the queen is impregnated "*all the eggs produce femals, and that the male bees were generally produced by eggs from the worker bee that was fed for the purpose.*" Now all practical, intelligent bee-keepers know that is not so, for a hive in a normal condition never has a fertile worker, and all the drones in such a hive are produced by the queen. One season's operations in an apiary will convince a mere tyro of this.

Again, Mr. O. Badder says he "removed a dozen or more eggs from worker cells to drone cells, and at the same time removed the queen from the hive, and all the eggs thus removed hatched perfect drones as far as the eye could detect. No other solution could be given to this experiment than that the bees removed the spermatozoa that changes the character from male to female after they had been placed in the drone cells."

From these statements I conclude as follows:—

1. The experiment was a very imperfect one, because there was not that careful microscopical examination necessary to test the truth of his statement.

2. His conclusion is a very erroneous one, because the egg is not fertilized by the life-giving principle, the spermatic filament, remaining on the outside, as his language would seem to imply.

3. The whole shows an unpardonable ignorance of physiology, because it overturns the well-established facts in the reproduction of the honey-bee. It is very evident that the nature and permanent location of the spermatozoids is not understood, for we learn from the best authority that when an egg leaves the oviary it slips past the seminal duct, where it receives a portion of its contents, and the seminal filaments being very active soon find their way into the micropyle or opening of the egg. Now how the bees could remove the spermatozoids from the egg without destroying such a delicate article I will leave for Mr. Badders to explain.

I was somewhat surprised at the secretary sending the statements, and more so when the Editor published them without note or comment. A good deal has been said regarding the cause of bee disease, and some, I think, have arrived at pretty near the truth, but it is just fun to see Friend Quinby astride his hobby, old Boreas, and shouting with all his might, "I tell you, gentlemen, it is cold that kills the bees, for what I know *I know.*"

Behind him away in the distance, is another hobby, old *Sirupy*; its rider is hatless, coatless, and belaboring his nearly worn out favorite. He is also shouting at the top of his voice: "'Taint cold that kills the

bees, depend on't;" "'tis bad honey;" "'twont do;" "'twill kill every time;" "'twould be a great gain in honey if sugar syrup were used, besides nary a bee will catch the disease."

I also see betwixt these two, another rider on his stout, short lard favorite, old *Truth*. I think I hear the gentleman say, Well, if those two friends would only meet hereabouts they would find out they were both right.

For the American Bee Journal.

"Novice."

MR. MANAGER:—Allow me to congratulate you on having made arrangements whereby you can furnish a good, patented, two-story Langstroth hive in Chicago for the moderate price of $3.30. We would also suggest that as the preference is now strongly turning in the direction of *double-width* instead of two-story hives, you make arrangements, if practicable, to have them made in that way when they are to be used exclusively for the extractor. We believe the expense of making is a *little less* if anything.

As your offer will doubtless furnish a good many with sample hives to work from, we somewhat regret that the size of the frame is between any of the sizes in our classification of frames. As you give only inside dimensions we cannot tell the exact size of your frames, so much depends on the thickness of the lumber used. Is it not best when speaking of frames and hives to give *outside* dimensions of the former, and *inside* dimensions of the latter, for *these must* be exact?

While we are anxious to give Adair full credit for all his suggestions, we cannot think it proper to call double or treble-width hives all "New Idea Hives," for the "New Idea" *was*, if it is not now, set forth as a *patent* hive, and in some respects, it seems to us, a little inconsistent. See *Progressive Bee Culture*, inside of first cover, where he condemns the extractor. His price then given for a Langstroth hive fitted up on the "New Idea" plan, *with right to use*, is ten dollars. Double-width hives were used in our county before this work was published, for he had mentioned in public, making hives four or more feet long. Such hives have an undeniable advantage over the two-story hives, for the extractor, but it certainly was not Mr. A's reason for recommending them thus. We at first doubted their giving an *equal* amount of honey, but should they give more, as he claims they will, we certainly owe him a vote of thanks for his labors in turning the attention of apiarists in that direction. The testimony from those using them is strongly in favor of them, instead of the two-story hives, if we make some few exceptions, although reports seem to equally favor side entrances, in place of only one at the end, as Adair insists on.

In regard to the "queen's wings" business, we are perfectly satisfied to leave the matter with our readers as it is. Adair has opened and closed the subject, and we have had "our say" in the interim, which we have no wish to change or modify since his last. 'Twere no more than justice, however, to say that we *did publish* Mr. A's letter in full, *every word contained* in it, yet he accuses us of publishing only a part. If we thought that any one besides Adair, understood that *we* were intending to take upon our shoulders the task of punishing "Eminent Naturalist" we might reply to that.

Agassiz's lecture on the honey-bee might have passed uncontradicted twenty years ago, but in the present stage of bee-culture it was only the "worse for him" his persisting in his absurd teachings. How many of our readers have questioned with themselves whether he might not have committed great errors in other matters as well as bees, and as that would be out of our domain should we not hesitate before accepting his teachings as truth when we were not prepared to discriminate? 'Twould be a *huge* joke indeed to think of giving the task of "root"-ing out all the error in the "popular science world," to let alone the task of punishing them for their folly, to

Your old friend,

Medina, O. "NOVICE."

For the American Bee Journal.

Out-Door Wintering.

"Novice" says on page 41, February number: Quite a large number of our bee-keepers, with Mr. Gallup among them, contend strongly for out-door wintering." I must here make an explanation. I do not advocate wintering small standard stocks in ordinary standard hives on the summer stands, by any means; but large powerful stocks such as I now raise and such as I want for profit, I believe it would be rather difficult for the most of people to winter in a cellar. Then again such large hives are unwieldy to carry in and out. I have them so heavy that they are all that two men can lift, let alone carry about etc., I have stocks that have as many bees in them as four ordinary standard, strong stocks, or six common stocks. Every person ought to know that such stocks would be difficult to keep cool enough in a cellar. I have been led to experiment in the direction of large hives by seeing bees in a room or small house fixed on purpose. We have seen at different times extraordinarily numerous and strong stocks in such cases, and it occured

to us that with the extractor and movable combs, we might make this available ; and thus far we have not been disappointed in the results. If we have strong, powerful stocks there is always warmth enough to properly evaporate the honey ; whereas in small standard stocks it is frequently the case that the honey is not properly evaporated and especially is this apt to be the case in cool, wet seasons. In the large hives there is no tendency to stop breeding at every cessation of honey gathering, for a few days at a time, as there is in common or small standard hives.

Novice will probably say, as he has said before that we are trying to befog or puzzle the novices in bee-keeping. But let him consider that others besides Gallup and Adair are trying those experiments and arriving at like conclusions. We are aware that a hive of four times the capacity of the ordinary standard, or two thousand cubic inches, looks large, and we are perfectly willing to admit that it is large. But what will you do about it ; that is the question.

If I mistake not, Mr. Hosmer says, that in the past season he has made some for experiment, of fifteen thousand cubic inches. I know of no law to prevent, and so we will have to let him go on as he sees fit. But Mr. Hosmer says that he has been raising or keeping his best or most prolific queens. Now that is just what I contend—that I cannot afford to sell a queen for one dollar that I can build up a stock from that will occupy a hive of six or eight thousand cubic inches. My impression is that Novice's Hives and Queens are both cheap at one dollar each ; and my hives and queens may be cheap at five dollars each. Who knows. Let every one decide for himself. I have sold queens at fifty cents each, but they were only fifty-cent queens, and I never claimed that they were anything else.

The bees are wintering splendidly in this vicinity. E. GALLUP.

Orchard, Iowa.

For the American Bee Journal.

Criticisms Examined.

A friend having called my attention to the last number of *Gleanings*, I borrowed the paper, and found that "Novice" quoted from my circular to show that a calculated yield of one or two hundred pounds of box honey, or two or three hundred pounds of extracted, is a little too much. He "wrote Mr. Q. asking the question," etc. I do not see that this amounts to anything more than an effort to show that I have made a false estimate, and at the same time give an excuse for a sort of tirade against the hive.

He would be pleased to hear where any one had succeeded in obtaining that average. Had he quoted a little further from that same circular, he would have told his readers where it was done. He very ingeniously gives the number as twenty-five or fifty stocks, which I said nothing about, and it did not belong to him to do it. Why did he not put it at five hundred? He would be still surer not to hear of a case.

I ask of any man of even common fairness, to decide if it was so very absurd to calculate that what had been done, and repeated, might be done again.

I don't claim to know it all, and doubt not, much will be learned after we have all gleaned to the best of our ability. A calculation of even a few pounds more may yet be made. He asks if it "was wise to put it so high when his own apiary averaged less." Without claiming to be particularly wise, I may venture to express a fear that Novice is partially blinded by prejudice. I would ask if it was just to hold forth what my apiary does before his readers, as a criterion to judge of what *can* be done by others, and withhold the fact—which I presume he knows—that I have sold my best bees every year. When I get an order, I select the best—sometimes sell off all the best, and then take from the next best, bees enough for several swarms for the purpose of rearing queens, which do not store surplus, and often have to be fed what others have stored.

Justice would take this into "calculation." I rather think that my estimate was made when thinking of the bees that I sold rather than of such as I kept myself. Of course *I* meant *good* hives.

We all know of the reduced condition of a large number of stocks in the springs of the last two winters. Few men would depend on such for a fair average, especially if they took into account the fact that brood had to be taken from the best of these reduced hives to build up the poorest.

Now about the hive, which seems to trouble him, in view of "blasted hopes," etc. He asks, "Has he ever considered that the hive itself is only a plain, simple box?"

No, sir. I have not so considered it. When I have made a bottom board of the size I want, and a frame which I hook to it, and it stands alone, and I make a half dozen more, and stand by the side of it, and then take boards just the width and length of the frame and set one on each side, and one on top, I claim that it is a hive of itself, not "a simple box," nor particularly "cumbrous." The frames constitute a part of it. Much has been said about getting hives the right size. This one is adapted to the wishes of all. Frames being added any time to accommodate a large swarm, or taken off if the swarm becomes reduced. It is easier managed, and is much more efficient than

any hive with which I am acquainted, though of course, as it is, there is no more room to set the boxes for surplus than the cheap one he describes.

He continues:—"Full directions could be published in the circular, or even given in the journals, at the trifling expense, to him, of making the measurements and descriptions *once*." Now if he feels that he has not done his share of working for nothing, suppose *he* gives "descriptions and measurements," at the "trifling expense" he speaks of. I would very much like to see it given so plainly that it "could be easily made for four dollars." Two or three years since, I sent him a hive, without charge, appendages and all, rather than undertake to describe it myself. I would like to see the late improvements belonging to the appendage—a device to clasp the corners—*fully* described. Perhaps he could tell how to make it cheaply. If a man does not want anything but the simple hive, to be used for extracting only, I still think it best, and I would like to see it fully described as well as appendages.

As it is desirable for many to secure box honey as well as extracted, I have endeavored to adapt it to either, the advantages of which are easily understood. The boxes that sell best in market are made of glass, costing more than if made of wood to hold the same amount. These boxes, when put on the hive at the side or top, must not be exposed to the light or storms. I have enclosed them by getting out boards for the sides and top, of the right width and length, and have succeeded, after much thought, in having the clasps at the corners—that hold as firmly as nails—so that they can be loosened, and each piece taken away separately, without a jar, and so quietly that not an angry bee can be seen. It was not completed with one effort. Like all else that is worth much, it had to grow gradually; was altered again and again, and when at length I succeeded in getting the present hive and appendages, I found it had cost me in experiments, mechanical labor and brain work ten times the amount asked for it. If any man wants what I use, he can have it by paying a very small part of what it has cost me for the "know how." There are a few men—I mean those with some generosity—who are willing to share somewhat in the expense of getting a good thing. Suppose a man disposed to get up a paper. First, he must have matter, which ought to be his own, to put in it. Then he must reckon type, ink, paper, press, and the labor of printing, etc. He does not get his expenses back when he has printed one or a dozen papers, at seventy-five cents a copy. But when he has everything ready, he can print the second copy, or the thousandth, for a few cents only, and then, if he does enough of it, he can get remuneration, and a little more, at seventy-five cents a copy.

It may look to some like "pecuniary profit." Now it would be hardly possible to find a man so ungenerous as to claim that because his last paper cost a few cents only he should furnish it at cost before he got recompense for making the first, or even then. Is there any parallel in the two cases—in making a hive and making a paper?

As it is pretty well known how "cumbrous" the hive of itself is, I will not dwell on that, but when it "seems" to him that the smoker would be "cumbrous" I fear that some of his readers might take his "seems" for facts, and I beg that they suspend judgment till they see it work. If I should send him one, it might turn out as with a friend of mine who says he sent him a patent feeder. If he did not claim the invention, he substituted a tea-kettle for the tin tube to hold the feed, and sells it without changing the principle, calling it the "Tea-kettle Feeder." There are some men in the community from whom there is no protection, a patent will not do it. A man can spend his time and money till all is exhausted, endeavoring to assist his fellow men, and when he offers to let others share a small part with him, he finds men ready to discourage him by offering the same thing for just what it costs them after being shown how to make them. How has it been with Mr. Langstroth, who has benefitted bee-keepers thousands of dollars, and expended time, money and intellect in giving us a hive—in principle worth more than all before it—in procuring a new variety of bees, and has due him some recompense. But here is a man that has apparently done his best to discourage anything of the kind, by telling where hives and bees can be had for the trifle that would go but a small way towards it. It tends unjustly to deprive Mr. L. of his rights, and gives him to understand that *he* will not be paid for employing his talents to promote bee-culture, and he seems compelled to relinquish the pursuit. What have we gained in the end by being persuaded to purchase a hive or buy a queen for a dollar? We have all heard of the man who peeled the flint for a penny, and spoiled his knife costing fifty cents.

There is much more that ought to be said, but this must suffice at present.

St. Johnsville, N. Y. M. QUINBY.

H. O. KRUSCHE, Berlin, Wis., remarks as follows: "In my article, 'Do Bees Injure Fruit,' in the March number of the AMERICAN BEE JOURNAL, I stated that the New York *Tribune* had not seen fit to publish a similar article. But since that, I find that it was published in the *Tribune* of Dec. 31. It had escaped my notice, and hence I thought it had not been published. I herein apologize to all concerned."

Apiary for May.

This month the labors of the bee-keeper will begin in earnest, populous colonies will begin to prepare for swarming towards the last of the month, and where artificial swarming is not resorted to, they should be kept constantly under the eye of the bee-keeper, in order that they may be hived, and not be permitted to escape to the forest. When the swarm has been shaken down in front of the hive the bee-keeper should sprinkle them with cold water, (especially if the weather be quite warm), and all the bees should be brushed up to the entrance of the hive and driven in, after which the hive should be moved without delay to the stand it is to occupy, as, if it is left where the swarm is hived until night, the bees will have marked the location, and many will visit the spot the next day and perish, for on leaving the hive after being moved to a new stand the bees do not view and mark surrounding objects, having done this the day previous where they were hived and left till nightfall. As a natural consequence many must be lost, not having marked the last location of their hive.

It will still be highly necessary to see that the colonies are not destitute, for it often happens that the weather is so cold and wet, whilst the fruit trees are in bloom, that they are not able to collect honey sufficient to last them until white clover blooms. This will often be the case at the North; in the Southern States it will of course be otherwise. At the South bees may be expected to store a surplus of honey for their owner, and swarming will be quite brisk. A close lookout should be kept after the moth, as many colonies will still be unable to cover all their combs, and are liable to be destroyed by these ravagers. If wren houses are put up, so as to induce these little birds to build close to the apiary, they will catch many moth millers. It is stated by pretty good authority, that ducks are exceedingly fond of moth millers, and that they will catch many of them if permitted to take up quarters about the bee hives. If, however, the bee hives are kept in the kitchen garden, where cabbage plants are growing, it may puzzle the bee-keeper somewhat to hire his ducks not to eat them along with the moth miller.

It will be well enough for the bee-keeper to select his ground this month, in which to sow a patch of buckwheat, for the special benefit of his bees. When the time of the season arrives for sowing it, the farmer who keeps bees can also afford to make preparations to sow Alsike clover seed another season, as the seed will not be likely to cost as much as at present. This variety of clover is not only superior for bee forage, but is also excellent for hay, being inferior to no other variety cultivated in this country, but is said by many to be superior to our best red clover, giving a larger yield of both seed and hay. Care should of course be taken in the selection of parties to purchase seed from, as it is not always pure. I have seen some that was simply common white clover seed and green besides, so much so that it would not grow.—*Scientific Farmer.*

For the American Bee Journal.

A Visit to Adam Grimm.

He isn't *grim* at all. A round faced, clean shaven German, of medium stature, perhaps fifty years old; very earnest, and withal pleasant in manner, impressing you at once as a thoroughly candid, honest man. Slow to adopt new ideas, his careful conservatism will, no doubt, sometimes appear to the more volatile Yankee as old fogy stubbornness.

On a very hot day last summer, just at the beginning of the bass-wood harvest, I went to one of his apiaries, and found some eighty hives under a little cluster of lindens, in the centre of which sat his daughter Maggie, pretty well covered up with a huge sun-bonnet (Katie is married—the one who did the big day's work extracting). Very shortly Mr. Grimm put in an appearance on his round of visits to his different apiaries, for he had in all some seven or eight hundred colonies. For a bee veil he has what looks for all the world like a Dutch night-cap made of heavy sheeting, having the face covered with a wire cloth, in the centre of which is a round hole, through which passes streams of tobacco smoke and words of wisdom. He occupied himself principally that afternoon in putting on boxes, taking off the honey board entirely, and

putting the boxes directly on the frame. The boxes did not quite cover the frame, leaving a space of an inch or so at the back end, and then he blocked up the back end of the cap or cover so as to allow free upward ventilation. Bee-keepers take a note of this, as Mr. Grimm considers it a *strong point*, making a decided amount of difference in the amount of honey stored. In the spring he had fed several barrels of extracted honey, and considered himself largely the gainer by it.

Mr. Grimm thinks he can do better with boxes than to depend upon the extractor. Certainly, with his large number of hives, it would be a difficult thing to keep the honey extracted. He does not get so large a yield per hive as many others, but having so many hives his aggregate yield is, I believe, larger than that of any other. The question of extractor *versus* boxes, perhaps, depends upon the number of colonies kept. If I had Novice's number, I certainly should use the extractor—if Mr. Grimm's, I should be inclined to boxes.

After all, is not the important question, how to get the most money from one's whole stock of bees rather than to get the largest yield per hive? If so, I think Mr. Grimm is entitled to the palm. He showed me, on a previous visit, accounts of one year's work, yielding him ten thousand dollars. His own belief is that his success is due mainly to the superior breed of bees he has. As is pretty well known, he prefers the smaller dark Italians. I mentioned to him that I had kept my bees the previous winter in a cellar with tight cement bottom, and they had come out very mouldy. He replied that he had been obliged to abandon the nice cellar with cement bottom that he had built a year or two previous, and believed a cellar for bees should *not* have cement bottom.

Recently Mr. M. M. Baldridge mentioned to me one or two cases in which bees had kept unusually well in cellars with open cisterns in them. Perhaps the water absorbed the impurities of the air, and the earth bottom of a cellar may act in somewhat the same way.

Mr. Grimm thinks highly of Novice's bee-feeder, but doesn't like his quilt. He uses for a honey board a plain pine board, an inch thick, with a hole (inch hole, I think) for the bees to pass through to feed. Instead of feet as Novice has under his feeder, he has a close rim of tin which supports the feeder and prevents the escape of heat.

Mr. Grimm has lately commenced the banking business, but thinks he can make more money *bee-ing*, so he will continue in both departments.

As I took no notes of my visit but depend entirely on my memory, I may possibly not represent everything exactly straight, but I should not be so *very* sorry if I did tell a few lies about Mr. Grimm, if thereby I could get him to give a correct version with his own pen in the AMERICAN BEE JOURNAL.

Although a very *busy* man, I don't believe he is so selfish as to deny us the benefit of his experience if he really thought it was wanted. What little business I have had with him has been most satisfactory, and if I were buying bees or queens I would rather *not* see them, but trust to his selection. If having all the bees one can take care of, a pleasant wife and family, and a comfortable home, can make one happy, Mr. Grimm *ought* to be happy.

B. LUNDERER.

For the American Bee Journal.

California as a Bee Location.

MR. EDITOR:—The enclosed letter will explain itself. If you think it is not too lengthy to publish in the AMERICAN BEE JOURNAL, it would be interesting to many readers, as it has been to me—especially those seeking good "bee" locations.

Cynthiana, Ky. H. NESBIT.

H. Nesbit, Dear Sir:—I hasten to answer your letter, which was received a few days ago. Most of the honey shipped from here is strained by the heat of the sun, by putting it on perforated iron plates in a boat-formed, glass covered reservoir, from which it runs into the "tank." The wax melts after most of the honey has run out, goes through the plates, and when cold is removed from the strainer.

Three years ago I got a honey-extractor, and since then several other bee-keepers have commenced using it. A few only put honey up in the comb—mostly in two pound cans. It is difficult to ship comb-honey in frames to San Francisco, owing to the many changes it has to go through: from apiary to railroad, from there to a lighter, then to a steamer, and finally to a wagon, before it is received at the store. This will, however, be remedied, when we in a few years, get a railroad through to San Francisco.

This, as well as the adjoining counties of San Bernardino and San Diego, is a very good locality for bee-keeping. As we have no snow except on top of the mountains, and very little frost, in many places none at all, we leave the bees on their summer stands without any protection, and the bees are flying every day except when it is cloudy or rains, which, alas! does not happen as often as we desire. There is no time during the year when there are not some flowers to work on. The last four or five years have been very dry, owing to a scarcity of rain in the winter. It is a miracle if it rains here between May and No-

vember. Consequently the bees have swarmed very little, and the only safe mode of increase is by artificial swarming.

This winter, however, we have had more rain than of late, and everybody expects a good honey season. By using the extractor you can in any ordinary season rely on getting an average of at least one hundred pounds of honey from each swarm, besides doubling your stock, as I shall further explain. The honey season lasts from May till the end of September. In July the flowers give very little honey ; in August and September the bees gather some, but the principal harvest is during May and June. It does not require much to take them through the winter, but we generally leave them all the honey they have in the lower story at the end of the season. The bees here are, with a few exceptions, all black. Foul-brood troubles us some, but not enough to discourage anybody.

We plant nothing for the bees, although it might be well to have a field of rape or other honey-producing plants coming in by the first of July. Bees are worth from $2.50 to $5 in box hives. Mr. Harbison, I believe, sells Italians in his frame hives at $12 a swarm. Box hives are still much used, the honey being cut out of the upper part, and strained as described above. The same method has been used a good deal with the Harbison hive, which for a long time has been the principal frame hive in use here. A couple of years ago, however, Mr. John Beckley of Minnesota introduced the Langstroth hive, which is being adopted by a number of bee-keepers, and, no doubt, will be " the " hive within a few years.

The size of our frames is eleven and three-fourths inches long by nine and three-fourths inches deep, outside measure. The hive, being eighteen inches long inside, will take from ten to twelve frames in each story, according to the thickness of the comb. All the apiaries kept for business are situated at the foot of the mountains or in the canons. Many bees are found scattered round in the valleys, but only a few at each place, as the harvest-time is short, and the bees will just gather enough for their own use and for home consumption. They swarm, however, much more and earlier in the valleys than in the mountains, because the willows and some other plants commence blooming about New Year, and give an abundance of pollen and some honey, which stimulates the bees to breed early.

The honey from willow and mustard, the principal honey-sources in the valley, is strong and not very palatable, besides granulating very fast. Wild sage gives a fine flavored, colorless honey, sumach a straw-colored honey with good flavor. The former always takes the best price. So in looking for a location for an apiary, or " bee-ranch," as it is here called, these are the principal plants to have near and in abundance. Alpilaria, yellow alfalfa (wild), sycamore, oak, mountain-mahogany, greasewood, and a variety of other plants and trees give considerable honey. In some localities the alders are often covered with honey-dew in the fall.

A few enterprising bee-men are this year trying an experiment, which, probably in time, will be repeated by many others. About New Year they moved their bees to the valley, where they are already preparing to swarm, raising queen-cells and drones, and a few hives have even before this date been divided. By the first of May they will have been doubled, moved back to the mountains, and commenced their honey harvest in good earnest. As I have only been in the business four years, I cannot tell you what the increase would be for so long a time as you ask ; and being inexperienced and "bothered" with an unmanageable patent hive, I have not had much success in that respect. Moth-worms have been more troublesome than foul-brood, seeming to thrive exceedingly well in this warm and dry climate, and aided, no doubt, by the half-hundred safe retreats in the just-mentioned hive, where the moths are proof against the attacks of the bees.

Nearly all the honey from here goes to San Francisco, mostly in five-gallon tin cans, and sells at from eight to fifteen cents for strained and extracted, and twelve to twenty-five cents for comb-honey. We have had considerable trouble in disposing of the honey for the last two years. It would remain in the store, there being no demand for it, until it was candied, and then be sold for a very low price. Twelve and one-half cents is, however, the average, and regarded a fair price for strained honey.

The Bee-Keepers' Association of this County has now taken the matter in hand, and we hope to succeed in getting better prices and quicker returns by putting the honey up in cans and glass jars of sizes to suit customers, and by placing the bulk of the honey in the hands of one firm, which will prevent the price from falling as low as it has of late. At the last meeting, a few days ago, the president was authorized to go to San Francisco, and confer with merchants there about the sale of honey for the coming season. We are also in communication with Mr. Chas. F. Muth of Cincinnati, O., in regard to the sale of jars, no action having been taken yet on that matter by the Association. Several members expressed, at the last meeting, a desire to take their part in a car-load, but it was thought best to wait until we hear from San Francisco which size of packages will be most desirable.

If you are an "old bee-keeper," bee-keeping will no doubt pay you well here, and if you want to raise fruit, you can, on suitable land and with the necessary water for irrigation, add this branch to your resources. It is customary here to take bees "on shares," giving half the increase and half the products to the owner, the same receiving back the original stock at the end of the term, and both parties sharing the expenses equally. Few bee-keepers hire any assistants except in the height of the season, and the wages range from fifteen to forty dollars and board. From one to two hundred hives may be kept in one place, according to the size and quality of the range. Clarke's and Harbison's apiaries are in San Diego County, south of here, and about one hundred miles distant. Harbison has formerly resided at Sacramento, but I see by the AMERICAN BEE JOURNAL that he has removed his bees south.

We move the bees from twenty to thirty miles when moved as above mentioned.

I believe, now, that I have answered all your questions. Any further information shall be cheerfully given, as far as I am able. You are at liberty to publish this in the AMERICAN BEE JOURNAL if you think it will interest any body else. My address is at present, Los Angeles. Care of Henry Beckley, Esq. Respectfully,

WM. MUTH-RASMUSSEN.

Los Nietos, Feb. 24, 1874.

For the American Bee Journal.

Wintering Bees.

Could I have ordered the weather the past winter I could not have been suited better. Our losses had been severe the two preceding ones, causing much anxiety. The past winter will throw much light on many points that have been suggested as the cause of loss. We have had warm spells frequently, which seems to be additional proof that steady cold was at the bottom of the trouble.

That dysentery is not caused by the quality of the honey is strongly proved by there being none of it when they have been kept sufficiently warm. I know a lot of bees that have been kept in the cellar since the tenth of November, where the mercury has not been below forty-two degrees nor above fifty degrees during the time. Never in better condition—combs bright and clean. I hope that whoever has kept *strict* account of the temperature will report condition of their bees, whether disquieted from any cause, and how much. We shall, after a while, get the proper temperature, so that we can winter bees as safely and surely as cattle or horses.

I have much more to say on this subject some day. M. QUINBY.

For the American Bee Journal.

A New Smoker.

MR. EDITOR.—Seeing so many contrivances for smoking bees, I will send you directions for making a smoker that I have used and like very much. Take a piece of paper eight inches by twelve, and with corn silk make a solid roll of about one inch thick; paste down the edge of the paper and you will have a smoker that you can depend on. You can blow the smoke where you want it; it leaves no bad effect on the bees.

A great many bees have been lost here this winter, I think it was because they were all old bees. C. W. STOKES.

Atchison, Kan.

For the American Bee Journal.

Which is Best?

We keep bees for the honey and wax they secure us. Aside from these objects, we should no more think of keeping them than of keeping hornets and wasps. As honey is the principal object, the number of colonies kept, and the character of our hives and honey receptacles, should be formed and regulated with reference to that object. They, in the number of their colonies and hives, may be so regulated as to give a very handsome return at a very trifling expense, or so as to require considerable expense, a great deal of care and perplexity, and their product be very trifling and unsatisfactory.

In the opinion of many, success in bee-keeping depends upon luck and chance. Care and skill, with intelligence, will be likely to secure good luck or success. The careless and inattentive will fail, there is no chance in this matter. If the number of colonies in a field exceed the capacity of the field, some of them must perish. If the capacity is greatly exceeded by the number of colonies, probably all of them will perish. The number of colonies will be increased by swarms in the swarming season something in proportion to the size of the hives. Very small hives will probably give most swarms. Very large hives will probably not swarm at all. If standing in the hot sun, the size of the hives does not secure against swarming. Effectively shaded from the sun, a hive of one thousand cubic inches, or more, will not be likely to swarm; a hive of two thousand cubic inches, or less, will be likely to cast from one to four swarms. The operation of these hives will be, the small ones will average two or three swarms each. The providing for three or four colonies for winter will leave little room for surplus.

If we commenced with one, at three swarms from each hive, the first season there will be four, the second season sixteen, the third season sixty-four, the fourth

two hundred and fifty-six. In a field that will sustain but about thirty swarms, they must most of them perish the third winter. In a field that would sustain sixty swarms only, they must perish the fourth winter; and some of them have been fed the third winter or have perished then.

Suppose that, instead of thirty small swarming hives, we place eight or ten swarms in hives of about twenty-five hundred cubic inches in a breeding and wintering apartment, with surplus honey boxes to contain one hundred pounds of surplus honey in intimate connection with the breeding apartment; if effectively shaded from the sun, they will average in a good season one hundred pounds each.

If they are screened from the heat of the sun, and in a cool place, there will very few, if any, swarms issue from them. If the season is an unfavorable one, they will find honey enough to fill their wintering apartments, and furnish some surplus. There is no danger of starvation. There is room for thirty colonies with little surplus; there is surely, then, room for ten colonies and some surplus in a poor season.

The investment in bees in such hives has something of permanency. The keeper need have no fear of loss from starving. He need not have any anxiety about his bees running out. If his stock is kept within the capacity of his field, if his surplus boxes are placed on in season, and his bees duly shaded, he has but little trouble or care about them but to remove the surplus boxes when filled, and supply the empty ones when needed, and secure his surplus honey.

It is necessary to observe these few things:

1. Limit the number of your colonies to the capacity of your field. Better to fall short of than to exceed the number that will have full employment in gathering the honey.

2. Give ample room in the breeding and wintering apartment—two thousand five hundred inches at least. Then if you have not too many bees in your field, it will be unnecessary to feed them, with the ample room for stores; and it is simply the question whether you will have the honey in your field with little trouble and care, or will you live in constant care and perplexity, get at most not one-tenth of your honey, and have your bees almost all perish in every three, four or five years.

JASPER HAZEN.

Woodstock, Vermont.

Waldridge, a German writer, says he saw forty large bee-hives filled with honey, to the amount of seventy pounds each, in two weeks, by being placed near a large field of buck-wheat in flower.

For the American Bee Journal.

"Our Contributors."

I find the AMERICAN BEE JOURNAL invariably both interesting and instructive. Often re-reading many articles which have appeared in the last eight months I feel like thanking all the correspondents, both old and new, for contributing to make us such a readable paper.

While I deeply regret that Mr. Langstroth has been unable of late to contribute anything to the pages of the JOURNAL from his rich store of knowledge and experience, I am pleased that Mr. Quinby again favors us with occasional articles. Although this is an age of progress and new ideas, we cannot well dispense with the safe counsel and instruction of these two veteran bee masters. Mr. Quinby gave us a noble and dignified article on one of the knotty questions of the day, and while I must dissent from the conclusion he arrives at, in regard to a warm house being the only safe way to winter bees, I admire the spirit and style in which his ideas are given.

Mr. Chas. F. Muth tells us of the successful wintering of bees on their summer stand by himself and some of his neighboring bee-keepers, and thinks that it can be made uniformly successful. Will not those who adopt this plan of wintering, give us more particulars. I know that there is quite a difference in wintering in the vicinity of Cincinnati and colder locations, though that vicinity was not exempt from the bee disease. But I don't intend to discuss this subject here, I merely wish to call out "Our Contributors."

We have not heard lately from Mr. Bickford who used to practice successful wintering out doors, in a colder climate than Cincinnati, and who gave some very interesting articles on several subjects. I know that the readers of the JOURNAL would be pleased to hear from him again.

Let not "Novice" be discouraged in the good work he is doing, even if patent hive men and others who are trying to humbug the bee-keeping community, do fly into a passion and use discourteous language because their tricks are exposed.

And "Gallup"—how could we do without his practical, strong, common-sense articles; deducted from his close observations and reasonings. Though an old hand at the "bee business" he is far from being an "old fogy" and don't intend to be a whit behind any new ideas and progress in his favorite occupation.

Thanks to friend Adair for his many excellent contributions. I hope that he will continue to give us the results of his scientific and theoretical investigations, and the practical working of his "new ideas."

There are many other names I might

mention which I would like to see continued upon the list of contributors, in fact I would like to have them all continued.—Some who used to write very acceptably do not write as often now as I would like,—such as Grimm, Argo, Price, Nesbit, the Davies, etc., etc., with my quondam friend Thomas, who, although he may not be able to convince us that he still has the "best hive in America," I know he can write interesting and instructive articles on other subjects. His idea about that bee disease, in my opinion, is about the best that has been advanced.

And will not our sister bee-keepers let us hear from them oftener? What say you Miss Cyula Linswick, Miss Ella Dunlap, Miss Katie Grimm, Mrs. Harrison, and other sister bee-keepers? I can assure Miss Linswick that her delightful sketches are eagerly read and admired by one, and I believe by all the readers of the JOURNAL. When we have young ladies visiting us and I wish to interest them in bee-keeping, which I am sure to do, I read to them Miss Cyula's narrative of her experiences and Miss Katie Grimm's account of her great honey harvest.

Last but by no means least is the contributions of selections and translations from foreign bee journals, which I hope to see continued.

It requires variety in a paper devoted to such a specialty as bee-keeping to make it interesting, and that the numerous correspondents of the AMERICAN BEE JOURNAL have given it, and that is one cause of the strong attachment felt for it by its subscribers. THADDEUS SMITH.

Bees Eating Grapes.

As I have cultivated bees in a part of France where grapes are the main crop, near the hills of Burgundy, celebrated for the wine produced by the culture of the sugared pineau, a grape richer in sugar than all the American kinds, I think I can bring some light on the discussion existing between Prof. Riley and my friend Kruschke.

There has been considerable discussion between the wine growers and the bee-keepers, in the above named district, and it is, to say, very well established that bees are unable to cut the skin of grapes.

In order to ascertain the fact the most juicy and sugared grapes, pears, sweet cherries, plums, apricots, etc., were put inside the hives; never have the bees attacked them, if they were not previously scratched. The experiment was repeatedly made, it was discovered also that the first cutting was made by a kind of wasp, or by birds, or caused by the rain falling when the fruit was ripe. (See the seventeen years of the French journal *L' Apiculteur.*)

In Italy the same experiments have led to the same result.

It is therefore unjust to accuse the bees of the mischief. It is to be regretted to see such distinguished men, as Prof. Riley, bring forward the accusation, and some bee-writers sustain it, who, with a more careful observation would have arrived at altogether different conclusions.

It is not the first time that scientists have received lessons from practical bee-keepers. At the end of the last century Shirack had to contend with the scientists of his time, to prove that bees can raise queens from worker eggs.

Later, Dzierzon has proclaimed the parthenogenesis, in spite of the European scientists, whose ideas were knocked down by the discovery.

Later, Langlois, a french scientist, made an ass of himself in advancing that the cells and the food were able to change the sex of bees.

Last year, Prof. Agassiz was laughed at by the bee-keeper, for his idea on the building of the cells by the bees.

It happens too often for the progress of science that, in order to get fame, some writers bring forward as fixed facts, some ideas altogether contradicted by experience. Some years ago Prof. Warro amused the readers of the *American Bee Journal* by his theory of procreation in bees. To-day it is Mr. Adair who has inherited that situation, with his balanced colonies, his wings which act as lungs, and probably as nose and ears. Fortunately these hazarded assertions are too baseless to obtain credit among the bee-keepers. They show how great is the diversity of minds in the human race. CH. DADANT.

Hamilton, Ill.

East Friesland, a province of Holland, containing 1200 square miles, maintains on an average, 2000 colonies of bees per square mile.

How to Extract Honey.

With a good extractor, one that will hold the comb firm, you can extract honey from new comb without breaking it; and—in addition to obtaining enough from a few hives to pay for a machine—extracting it will leave the bees in a much better condition.

Take out the outside combs in which there is no brood. You can not extract old, *thick* honey from combs in which there is brood *unsealed*, without throwing out more or less brood and it is best to let such combs alone. If the day is warm extract the honey at once. If the weather is cold, put them in an empty hive and carry them into a warm room, where they should be left a few hours, or until the comb will bend slightly without breaking, before extracting the honey.

Townley, Mich. J. H. Townley.

Bees vs. Fruit—A few Facts.

"Argus" to Prof. Riley.

With all due respect for Mr. Riley as an entomologist, allow me to say that, in my humble opinion, he has signally failed to justify himself in recommending the destruction of bees, even in extreme cases. But to the question, "Do bees injure fruit?" Mr. Riley says they do, and also says, "I never fear the truth and *never write anything* that I am not *ready* and *competent* to defend." Now, all this may be true, Mr. Editor; but we must make considerable allowance for youthful zeal. I find, as I grow older, I change my mind on many things; and I even dare to think as Mr. R. gains in years and experience he, too, may change his opinions, not only upon this subject but upon others, his ideas on the grape vine aphis included.

Permit me now to look briefly at the proof that he offers, to establish what he pleases to call the truth. The first is a letter from I. W. Penn, who says:—"I like fruit, large and small, to become throughly ripe; but from early to late in the season the place is infested with myriads of bees belonging to persons that fail to provide food for them. * * The choicest peaches, the sweetest pears and the most delicious grapes are hollowed out by the starved and ravenous insects." Looking at this testimony your readers would be apt to come to the conclusion, if they had never seen bees, that they had a bill like a bird or teeth and stomach like a squirrel. Look at the statement "the fruit was hollowed out;" and again, "I and others of the family were severely stung by the bees lurking within." Now, would this kind of evidence satisfy a competent jury? True, it might be called circumstantial evidence, but not enough to convict and punish with death. Now, would this species of reasoning satisfy Mr. Riley on any other subject? Would he not require a more careful examination before jumping to a conclusion? If not, I do not think he is the fortunate possessor of the mantle of Father Walch.

The next witness on the stand is J. H. Werlandy, who says he was so annoyed by his neighbor's bees that he lost his entire peach crop, which was rendered unfit for market by their injuries. This witness might just as well be dismissed without comment, seeing there is not one single proof offered. Now let us hear the testimony of Mr. Riley himself:—"This objection to bees under certain circumstances comes from the real and direct injury they do to the fruit." This is merely gratuitous assumption. Again, "The mouth of the honey bee is fitted both for lapping and biting." Well, for the sake of the argument, suppose it is; how far would this testimony go to convince a jury, If Mr. Riley was brought up on a similar charge? It will doubtless be very clearly seen by every intelligent and candid reader that the statements given are very far from being sufficient to establish the fact that bees injure fruit.

Now let us go back to Mr. Penn's orchard and see if we can't find some other cause for the destruction of his fruit. "Here are also some ornamental trees and evergreens, including an Arborvitæ hedge to shelter the small birds, which became very tame under the kind of treatment they received." I ask Mr. Penn what he thinks the birds live upon? Not all insects I can assure him; and, to convince himself of this, let him go into his orchard by the peep of day, and perhaps he will find the birds as well as the bees enjoying themselves. I have been longer in fruit than bee culture, and I know the birds have had many a dainty meal of the best of my grapes, cherries and strawberries; and I also know that at times they have had the lion's share. Mr. Penn says he is kind to the birds, doubtless convinced that they are his friends. A few years ago a fierce controversy was waged upon the bird question; some thought they did more harm than good; but mercy and truth at last prevailed, and now they enjoy their full liberty both in the field and orchard, for the good they do. Again, Mr. Penn says, "My loss last year in money value was considerable." This is only one side of the money question; he has failed to give the bees any credit; but I hope in time he will learn better, and, as R. Holland truly remarks, "Any one who goes through the world with his eyes open, is sure to find out something that even professional naturalists did not know before."

Some seasons fruit "don't set good." Why? I have in my mind at present a large

pear tree whose branches in the spring were white with bloom; but there came one of those heavy, dashing rain storms and washed out the pollen, and of course there was little or no fruit on the tree, except one branch, and that was loaded with fruit, for it hung under and was protected by the eaves of the house. If there had been plenty of bees in the neighborhood to have fertilized the rest of the tree, more fruit would have been the result. Providence never works without means; and it is admitted by all naturalists, and Mr. Riley himself will not deny it, that the bee is a means of not only giving us more fruit but a greater variety. Art in this has done much, but Nature more. With this view of the matter the means that Mr. Riley has recommended for the destruction of bees will not justify the end; for it has been observed, from the days of Aristotle to the present time, that where there is an abundance of bees there is an abundance of fruit; therefore the more fruit the more money. These facts are so well established no proof is required.

But there is something else, of a serious nature. The flight of a bee is ascertained to be about a mile in two minutes. Now, the bees that fill their sacs (or first stomachs) at Mr. Riley's poison dish will not all die there, but thousands will fly home and deposit their load in the hive. If this honey is used at home or taken to market, who will be responsible for the consequences? I think friend Riley has made a great blunder, and I would counsel him to be careful where he buys his honey, for if he has any facts to communicate upon this important subject, the public cannot well spare him at present. In conclusion I would ask him if he ever kept bees and how he managed to keep them at home?—*Rural New Yorker.*

For the American Bee Journal.

A Prolific Mother.

In the queen bee, the mother of the colony of bees, we have an abundant breeder, amounting to many thousands each year of her life. All the bees in the old colony are her progeny until three weeks after the issue of the last swarm from the hive. As the old queen issues with the first swarm, all the bees in that colony for the whole season are produced by her. Likewise all the bees which constitute the after-swarm, sometimes amounting to three or more swarms. The first swarm with which the old queen issues sometimes gives a new swarm. That is her progeny.

We have many thousands in the first swarm, many thousands in the after-swarms, many thousands in the first swarm produced by the old queen after her establishment with the first swarm in her new home, and many arising from her brood left in the old hive at the time of her issue with the first swarm. I will not name numbers, as there are great differences in the strength of different colonies, and it would be only guessing; this one can do as well as another. It is enough for our present purpose to understand that it is a sufficient force, with the late additions made by the young queens, to carry two, three, four or five colonies through the winter. But the expectation of much more than this may be considered a vain hope. By following this course from year to year with small hives, a large number of colonies may be secured. But little surplus honey is secured, and the point is soon reached where the field will not supply food for their support, and large numbers, sometimes all of them, winter-kill or starve to death.

I think it must be apparent to every reasonable, reflecting man that if the labor can all be expended and its profit all secured in one hive, and all but that part of it necessary for winter stores be secured in snrplus boxes; instead of being very trifling in amount, from one-half to three-fourths of it may be secured in surplus boxes in the best shape for market. Of this I have no doubt, having secured from one hive in one year one hundred and forty pounds, in another year one hundred and forty-five pounds, and in another two hundred pounds. In other years less, varying from one to two hundred pounds.

In my operations with this hive, I have known no swarms to issue except from neglect to give the room furnished by the surplus boxes before the preparations for swarming had commenced, or from neglect to sufficiently guard from heat.

Last November I removed from the vicinity of Albany to Woodstock, Vt., probably to close my days. My bees I left in care of my son, who informs me by letter that but one colony has died.

JASPER HAZEN.

For the American Bee Journal.

A New Subject (?)

The subject in regard to the mortality of bees, during the last few years has been discussed in nearly every number of our journals, ever since that fatal winter.

I would now like to ask: Have we finally discovered the true cause? Can we prevent it in the future? Quinby, Dadant, "Novice,"—in fact, nearly every bee-keeper of importance in the land, have given their experiences and opinions. One says it is on account of the long continued cold; another lays the fault to bad honey; another to bad ventilation, and dampness; another calls it an epedemic.

If these questions, as to the cause, were

put to me, in conclusion at the end I would probably reply "yes"; for there seems to be some truth in each statement. I think many have come to the conclusion, after perusing the various reports, that if we keep our bees in future in a place where the temperature will average forty to forty-five degrees, and where the dampness will not accumulate, and where the bees will be kept dark and quiet, there is but little danger of loosing them by dysentery.

The loss of *our* bees, winter before last was the cause I have no doubt of too cold winter quarters. We kept our bees last winter in a clamp made similar to one described in the AMERICAN BEE JOURNAL, Vol. ix, No. 2, page 38, by Chas. D. Hibbard. We, however, made some improvements by packing one foot of straw against the ground walls, and also on the bottom. We turned the bottom boards of hives upside down and set the hives on the four inch cleats that are nailed on the bottom of the bottom boards, thus giving them four inches open space on two sides for ventilation. We put them two deep and covered them with two feet of straw. The covering of the clamp consisted of one foot of straw upon which we threw about one foot of dirt. Next time however, we will put on even more to make sure.

We put in sixty-one colonies, in a room eleven by sixteen feet, centre of roof ten feet from bottom. Could put in about twice as many.

In this nest of straw as it were, they kept up a temperature ranging from thirty-five to fifty degrees—forty-five being about the average. They came out effected a little with dysentery; those that set in the upper tier were generally less effected than those on the bottom; and as some of the frames were a little mouldy, we came to the conclusion that there was too much dampness. Three were found dead, four have since died. The death of a couple might be laid to the fact that they were but few in numbers, and these were mostly old bees. If there be any truth in the young bee theory, the more we know about it, the better. Another fact came to my notice that might assist in verifying the young bee theory, it is this;—I made three stands in August, two were supplied with capped queen cells, the other had an old queen, these are all living though they were weak in numbers in the fall, but as I fed them well with sugar syrup, they kept on breeding longer than others not fed, neither were they badly effected with dysentery.

Make it then a rule to give bees the conditions above named, viz: warmth, dryness, plenty of ventilation, feed them *all* in the fall, keep them in perfect darkness, disturb them as little as possible, and I think dysentery, or "that bee disease," will be extinct.

Berlin, Wis. J. D. KRUSCHKE.

For the American Bee Journal.

Apiculture in Kansas.

MR. EDITOR:—This winter has not been a very favorable one on bees in this State. It has been a winter, like all its predecessors, peculiar in many respects. The thermometer in this vicinity has never once been below zero during the winter months just past. There has been a vast amount of freezing and thawing, with protracted spells of weather during which the air was in a very humid condition. In noticing my bees lately, I saw more signs of mouldy combs than any preceding winter. Such is especially the case with those wintered on their summer stands. Why combs become so very mouldy in some hives while in others the combs are perfectly bright, where all probabilities would lead one to suspect a like result, has always been to me a little mysterious; but the ventilation, quantity and age of bees, and quantity of comb in the hive, are conditions which if properly understood would solve the problem to a great extent, no doubt.

The Legislature of this State passed an act approved March 6th, 1873, relating to the collection of statistics of the industries of the State by assessors. Apicultural statistics were collected under the following heads, viz.: "Number of stands of bees, native and Italian, to be stated separately, kind of hives used, number of pounds of honey produced, and the source from which the greatest yield of honey is gathered." The secretary of our State Board of Agriculture in his report for the year 1873—which was laid before the Legislature a short time before its adjournment—gives the following, which is the aggregate synopsis taken from the statistics relating to bee culture, and which were taken for the first day of March, 1873:—

Number of stands of native bees,		13,245
" " " " Italian "		1,640
" " pounds " honey,		135,384
" " " " wax,		3,686

The secretary also reports the following: "According to the census returns of 1860, the number of pounds of wax returned was 1,181; in 1870, 2,208; in 1872, 3,686. The number of pounds of honey returned in 1860 was 16,944; in 1870, 110,827; in 1872, 135,384. In 1873, 14,885 colonies of bees are reported, 13,245 of which are native. . . . . Allen County reports 'sunflowers and weeds and flowers generally' to be the best source of honey in that county. Twelve counties report buckwheat; three counties report linden. Linden, sumac, white elder and smart-weed, appear in most of the reports. . . . . Buckwheat, clover and basswood, are reported as giving the greatest yield of honey."

Perhaps the report by counties as given

by the secretary would give the reader some idea of where the best portions of the State for bee-keeping are found, but we have not deemed this of sufficient importance to the general reader to copy it from the report.

M. A. O'NEIL.

Black Jack, Kan.

For the American Bee Journal.

My Experience.

Mr. Adair, in his article on the wings of bees, holds out the idea that to cut a queen's wing is like taking away part of a man's lungs. I will give you my experience during the last year with stocks of bees with queens' wings clipped—some a little off, some half off, and some more than half off, just as it would happen in giving a clip as they would run on the comb.

I moved twenty-four of my best stocks to a large poplar grove (*liriodendron tulipifera*) on the 17th day of last May. They were in two-story Langstroth hives, twenty frames, ten by seventeen inches, and by June 5th they were crowded and began to swarm. By the 13th I had to take 1263 pounds of honey from them with the machine, except 161 pounds that was in boxes. I was careful to remove all queen cells, but in about eight days they were swarming again, sending out enormous swarms, so that on the 24th I had to take 1440 pounds more honey with the machine. By this time I never had stocks so strong in numbers. Now if clipped queens do that way I say "*clipp em*" every time—Gen. Adair to the contrary notwithstanding—for had not these queens' wings been clipped, I perhaps would have lost half of the bees, for on the day before I went to take the last honey there were eight swarms out. The owner of the lot where the bees were, knew nothing about taking care of bees. I had them so arranged that the queens could crawl back into the hives so of course the swarms would go back themselves. Now if any one knows of queens being injured by clipping let us hear from them.

I then moved those bees to a linwood grove on the 26th (except two stocks that were so crowded that they smothered on the way). The weather set in very wet and linwood bloom was worth but little, so that I only got 850 pounds of honey from that source. Eight of the best of the twenty-four hives had on three boxes each (that would hold about sixteen pounds each) from May 17 until June 13, and only had 161 pounds of honey, while the other sixteen hives gave 1102 pounds of honey, being 69 pounds each, while the others only gave 20 pounds in the comb, each, making a difference of only 49 pounds each in favor of *slung* honey.

I have now one hundred and twenty-two stocks in the bee-house. I gave them in the fall about 1100 pounds of "A" coffee sugar, made into syrup by putting one pound of water to two pounds of sugar and let it boil a few minutes, and feed so that the bees and honey in each hive would weigh about twenty pounds, my bee-house is an upper story, inside sixteen by eighteen feet, eight feet high, double walls filled with saw-dust, the temperature has not been below thirty-nine degrees Fahrenheit this winter. In the last twenty-three days I have swept up eighteen pounds of dead bees—please tell me what is the matter. The summer entrance of the hives are open, upper story off, and the cover laid on the lower story. The hives are piled three to four hives high, in four rows, with room to walk in front of each row. The temperature has been up to fifty-five degrees, two or three times for perhaps a little over a day at a time, it generally stands at about forty-four degrees. The room is perfectly dark with ventilator eighteen by eighteen inches regulated at will. I enter the room through a trap door in the floor.

On April 15th my bees were reduced to ninety-two in number and several very weak. In the last ten days I have fed my bees two hundred and eight pounds of "A" coffee sugar, and if this cold weather continues ten days longer, I will have to repeat the dose, which goes to show that the weight of the bees and honey in the fall should be more than twenty pounds for some winters. That has always been enough with me, heretofore.

Last spring I had bees in forty-four hives, which gave altogether a little over 4,000 pounds of honey. I have sold 3,600 pounds of it, at an average of twenty-three cents per pound. The balance we have used, except about 200 pounds of bass-wood honey, that was gathered in very wet weather, and has soured a little. This I will feed to a few hives when the weather gets warm, and observe the effect it will produce on them. P. W. MCFATRIDGE.

Carthage, Ind.

The instinct of bees in the construction of their cells has always been an object of wonder to those who are capable of appreciating it. Every cell has straight lines and sharp corners ; but never does any cell present its sharp corner to its neighbor's cell—a soft even side to every neighbor's side. Each fit to each, firm to support, and yet soft in the contact. No interstices are left where filth might accumulate to annoy and defile. Thus let man meet man as they tread the crowded path of life. Always a side to your neighbor that is soft and strong. No sharp corner of selfishness that will pierce your brother.—*Arnot.*

American Bee Journal

W. F. CLARKE, EDITOR.

CHICAGO, MAY, 1874.

Clipping the Wings of Queens.

For some years past it has been customary with the best apiarians to clip the wings of queen bees as a precaution against swarming.

At the annual meeting of the North American Bee-keepers' Society, held at Louisville, Ky., in December last, doubts as to the propriety of this course were raised by Gen. D. L. Adair, one of the best apiculturists, both as to theory and practice on the continent. In a paper on the wings of the bee, it was contended that various important functions, breathing included, were performed by these organs, and it was argued that they could not be mutilated without injury.

This paper having appeared in the reports of the Louisville meeting published in this and other journals, has naturally led to the matter being pretty freely debated among bee-keepers, "Novice" in his "Gleanings," has pronounced strongly against Gen. Adair's views, but failed to do him the justice of publishing the paper itself. Our last issue contained a very able reply from Gen. Adair, to "Novice's" criticisms.—The subject has also received attention in other quarters.

At the annual meeting of the North-Eastern Bee-Keepers' Association, which met in Utica, N. Y., during the first week in February, this subject was very fully discussed and a number of the most experienced bee-keepers gave it as their decided opinion, that clipping a queen's wings does not injure her capacity for usefulness. Secretary Nellis had practised clipping five or six years, and observed no bad results. At the present time, he had more than forty queens with wings cut off, and considered them as servicable as others. Captain Hetherington, we believe the largest bee-keeper on this continent, also practised clipping. He sometimes had three and four hundred clipped at once. Mr. Doolittle had done more than all the rest, for he had tested the capacity of a queen who not only had her wings but also a hind leg clipped off, and yet did effective duty for four years. The general weight of testimony was decidedly in favor of clipping. Mr. Quinby however, who proposed the question for discussion, was very reticent in regard to it, expressing no definite opinion, but merely testifying that he had known a case in which a swarm went out with a young queen, leaving the clipped queen in the hive. Other speakers incidentally admitted that clipped queens were apt to be superseded, the bees evidently regarding them as deformed or crippled.

We have never tried this practice, and are therefore liable to be considered incompetent to say anything against it. But we can at least be permitted to state why we have never tried it. One reason has been, that we object, on principle, to the unnecessary mutilation of the creatures domesticated by man. Docking horses' tails, clipping terriers' ears, ringing pigs' noses, picking the feathers off live geese, cutting off the combs of game cocks, and the like, are all of a piece with clipping the wings of queen bees. Another reason for our avoidance of the practice has been, that we are unable to see how it can be kept up without injury. If it is a wise and necessary thing to do, then it must be done to successive generations of queen bees. Now, though no serious evil may result from its being done once in a while, it must entail weakness if done continually. A woman, here and there, may, by accident, loose an arm without perceptible detriment to the race; but if every bride were deprived of an arm on or before her marriage, we are of opinion that the mutilation would tell disastrously upon coming generations of human beings. If General Adair should prove to be right, and the important functions he suggests are in reality performed by the queen's wing, then assuredly serious injuries must result from the mutilation.

Moreover, we are opposed to all unnecessary meddling and fussing with bees. There is a wise management and supervision of the busy little workers, which is man's part

in the production of honey, but beyond this it is impertinent interference and annoyance to disturb their wise economies. The swarming instinct may be checked, regulated, and watched over, but we do not believe it can ever be annihilated, or if it can be, it will be at the cost of such a change in the disposition of the bee, as will greatly lessen its value to man as a gatherer and storer of honey.

Finally, we believe the All-wise Creator made no mistake in giving the queen-bee wings, and that it is, on the whole, best she should be permitted to retain them. One of the speakers at Utica said he began the clipping business by clipping off one of the four wings. Then the queen went with the swarm. So he took to clipping off "every wing entirely." Another said, "Queens cannot do anything with their wings but go through the air. Their business is in the hive; wings are of no use there." It is astonishing to see with what cool presumption some people constitute themselves advisers extraordinary to Infinite Wisdom, and proceed to carry out improvements in the Creator's plans. The queen-bee had wings when the Lord God surveyed his finished works, and pronounced them good. An inspection of them now would not result in the denial of wings to the royal insect, or in any other improvement whatsoever, seeing that all the Divine works are, like their glorious Maker, perfect. The Creator's fiat is of more weight by far than the creature's fancy, and we are content, in our bee-keeping management, to conform to all the Divinely-established laws of bee-life, instead of trying to change, or even presuming to suspend them.

Why don't Farmers keep Bees?

Mr. Quinby, of St. Johnsville, N. Y., a high authority on everything pertaining to bee-keeping, discussed the above question in a paper read before the North-Eastern Bee-keepers' Association at its recent annual meeting. He assigns four reasons for the neglect of bee-keeping on the part of farmers. 1st. They don't know how. 2nd. They doubt if it will pay. 3rd. They have had such poor success in wintering bees. 4th. They are afraid of being stung.

To these reasons, quite sufficient in themselves to account for the fact that very few farmers keep bees, we would add another—namely, want of enterprise. There is a quality for which successful men of business are noted which is very scarce among farmers, and which we call "enterprise." It leads to the trial of new and improved methods; to the making of ventures here and there on the principle, "Nothing venture, nothing win;" to an intelligent scrutiny of things generally; and to energetic action in any direction that seems to promise adequate reward for dilligent effort.

For some cause or other, this quality is lacking in the great majority of farmers. Were it not so, there would be more manuring and better tillage of land; fewer bars and more gates; some display of taste about rural homes; a general adoption of improved stock; carefully kept farm accounts; and many other things that are as rarely found around country homesteads as hives of bees.

Enterprise is the result of education, and of that sharpening of wits which comes with the association of minds and the friction of ideas in the social and business contracts of life. Agricultural colleges for farmers' sons, and for any who contemplate rural industry; the circulation of agricultural periodicals and books; more visiting and travel on the part of farmers and their families; the establishment and energetic working of farmers' clubs; and such like means, will tend to cure an evil whose presence is indicated all around us in bad farming, woe-begone looking homes, tumble-down fences, ill-bred stock, absence of gardens, and last, but not least, neglect of bee-keeping.

THE ILLUSTRATED JOURNAL.

As a specimen of typography this magazine is deserving of all the praise that has been bestowed upon it by the Press of the country. All the engravings are, without exception, of a high degree of merit, both as respects the subject and the execution. The literary department is well sustained. The number is filled with interesting reading of permanent value. A volume of this beautiful journal will be a source of pleasure to every possessor of it. Published by the American Publishing Company, Room 27, Tribune Building, Chicago, for only $2.50 a year.

QUESTIONS AND ANSWERS.

CONDUCTED BY CH. DADANT.

QUESTION.

In Vol. ix. No. 5, page 100, of the AMERICAN BEE JOURNAL in an article from C. P. D. that no queen can occupy more than 80,000 to 85,000 *inches* of brood at one time. J. B. R.
Aberville, Pa.

ANSWER.

There is a *lapsus plumæ* or typographical error, it is not 80,000 *inches*, but 80,000 cells of brood.

QUESTIONS.

1st. I have four swarms. One I want to transfer to a Langstroth hive, I would like to know how to transfer them.

2nd. Give me some recipes for bee stings, and tell me where I can procure bee gloves and a good smoker. Mrs. W. M.
Elyria, O.

ANSWERS.

The best time for transfering bees is April and May. Choose a warm day; send some puffs of smoke in the hive to be transferred and remove it, putting a decoy hive in its place, carry the hive a few yards from the apiary, invert it and put upon it a box or empty hive, as nearly as possible of the same width, wrap them up with a cotton cloth to prevent the bees foom running outside, while drumming the bees in the empty box.

The drumming is done with two sticks of wood and should last from fifteen to twenty minutes. It is not necessary to drum all the time, but at intervals. When only a few bees remain in the combs, remove the box, in which the swarm has ascended, and put it in place of the decoy hive. The bees that are hovering about will enter it. Take care not to shake or jar it, for the bees would fall on the ground.

Bring the hive, deprived of its bees, in a room; with a long knife loosen the combs from the sides of the box, and pry off one side with chisel and hammer. If there are sticks across it, remove or cut them.

You should have prepared beforehand some No. 16 wire, cut in pieces half an inch longer than the height of the frames, in which you intend to transfer. The wires are bent at right angles, three-eighths of an inch from both ends. With an awl bore a small hole in the edge of the upper part of the frame, three or four inches from the end; then, with a light hammer drive in the end of one of the wires; the opposite end is driven in the lower part of the frame; put two or three wires at equal distances. Then lay the frame upon the table, with wires under. You sever the first comb from the hive; cut it off the exact measure; put it, or part of it, in the frame, so as to fill it, you fasten two or three wires to hold the combs in place, where they will remain straight and firm.

To fix the small bits of combs, put across the wires some stiff straw or dry weeds to make a kind of grate which will hold the combs firmly.

Take care to have the comb in the same way that they were in the hive. Do not put drone comb in the frames, and when you put the frames in the hive be careful to put all the brood combs together.

The vacant space in the hive should be filled with empty frames, or better, with worker combs fastened in frames, if you can get some. The proper place for drone comb is in the surplus box if you have an extractor.

Do not put the frames in the hive as soon as the combs are fastened in them, but put them somewhere to drain; for the less running honey you have in the hive the less will be the danger of robbers. When all the frames are placed, shut up the hive and bring it on the stand where the transferred hive stood. Remove carefully the box containing the bees, put the frame hive in its place, spread a cloth in front of it, and shake the bees on this cloth. As soon as they have nearly all entered, contract the entrance to help the bees in repelling the robbers.

Six or eight days after you should visit all the frames, one after another, and remove the wires with a knife.

Some bee-keepers in transferring use twine, some employ sticks of wood. I have tried both, but I find wire greatly superior. Do not be alarmed at the *immensity* of the work, but try it and you will succeed. The transferring is the work best adapted to familiarize the beginner with the bees and the building of comb.

2. Several recipes are given to remove the pain and prevent the swelling of bee stings. As both these effect very capriciously, sometimes the pain and swelling being immense, while at other times they are a mere nothing, all the remedies applied have in turn won and lost the reputation of being good for bee stings, while the truth is that not one is altogether effectual. The small drop of venom being deposited *under the skin*, no drug applied on the skin can penetrate deep enough to neutralize it. Yet when one fears that the subsequent effects will prove fatal, the application of compresses soaked in cold water are to be resorted to in order to remove the subsequent inflammation.

It is also an obvious fact that the human body can get used to the venom of bees, and that the more you are stung the less will be the pain and swelling of the sting. But as this last remedy is not very pleasing, I advise the beginners to avoid the sting as much as possible, and they can obtain this result in learning to handle bees.

First. Use a veil of black material put upon a round hat with a large rim, a common

laborer's summer hat is very good for that purpose. The veil passed around the rim has a rubber string which ties it against the neck.

Second. Use smoke to prevent the anger of the bees. For a smoker nothing is better than a small lump of white rotten wood perfectly dry, or a roll of linen or cotton rags interspersed with some sprigs of dry grass.

I have seen in Italy and in France several kinds of bellows and smokers; one which seemed to me very easy to manage was a tube of tin a little more than an inch in diameter and about eight inches long. This tube was filled with a roll of linen or cotton rags which burned slowly. To extinguish it the cotton roll was drawn inside of the tube and the tube was driven in the ground.

If bees are unusually cross, go before the entrance of the hive and send in two or three puffs of smoke; remove the cover of the hive, raise carefully the honey board, sending some smoke inside the hive. Remove the honey board, send a little smoke between the combs, and your bees will be in good disposition for the time of your operation. As soon as you see some bees running to and fro on the tops of the frames, quiet them with a little smoke.

Remember that the handling of bees is more easy between ten in the morning and three in the afternoon—in a clear than in a cloudy day—in spring and summer than in fall, and with Italians, pure Italians, than with black, gray or hybrid bees.

As to gloves, I cannot advise their use, for they are inconvenient. It is better to leave them alone, and to learn to handle bees.

QUESTION.

I prefer artificial swarming. How should I start the nuclei?

ANSWER.

It is impossible to answer your question. That will depend on the force of your colonies and the season. Here in Hamilton, Hancock Co., we start the first nuclei in May, but some years we have to defer it till the first of June.

QUESTION.

Are the bees, placed on a lawn, disturbed by the noise of a mower close to their hives, and will the moving of their stands to mow the grass have a bad effect? C. E. S.
Buffalo, N. Y.

ANSWER.

The noise of the mower will not effect the bees if it does not strike their hive. But the man would be exposed to their stings. To remove the bees at every mowing would be a big job if the colonies are numerous; and unless closed up before removing the hives the bees would be greatly disturbed. I advise to close up the hive before sunrise, and to mow immediately, so as to keep the bees closed as little as possible, taking care to open the entrances before the heat of the day.

To Beginners in Apiculture.

BY PROF. A. J. COOK.

ARTICLE II.

During the coming month—from the last of April to the last of May—our little models of industry and thrift will need but little care and but little attention, though they had best receive a great deal of the latter. How often we hear something like the following from our lady friends: "How I wish the same luck would bless me that attends Mrs. M. in the care of house-plants;" and as often we feel like saying: Undoubtedly it would, my dear madam, did you love them as well and care for them as assiduously. It is loving care, not luck, that keeps the noxious dust-particles and scale-insects from the houses, and makes the ruinous attempts of the little aphis and wee spider futile. So, too, with our bees. He who loves to watch, closely observe, aye, and tenderly fondle, will be the one whom "luck" will bless. So I say commence at once those frequent attentions which will acquaint you with the wondrous life-history of your little help-meets, make you to understand their needs, and so cultivate a reciprocal acquaintance that your closest scrutiny, so far from disquieting them, will be rewarded by the discovery of all their usual operations. The wax secreters will yield their palets, the little cell architects will rear their marvellous structures, the labor-worn gatherers will empty their stomachs, the staid old queen continue her egg-laying, and the old drones—those bummers of the hive—will stare at you. And all this before your very eyes. If you wish the best success, you must open the hives and make very frequent examinations, and thus very soon you and the bees will become mutually fearless, and you can abandon the sooner those cumbrous appendages, your bee gloves. But in all this, strive never to jar the bees, nor make a quick motion.

WITHIN THE HIVE.

Now, on the warm, pleasant days—you will open the hives on no other—what will you expect to see as you peer into the secrets of the hive's interior? First, if you have followed instructions, you will find almost every card of comb literally covered with bees; and if you examine closely enough, you may see the old queen herself. You will know her by her very long body, looking as though it needed a prop. Trouble not at its length, for from the queen's abdomen are to come those millions of eggs, the very germs of the apiarist's success—not now, but in a few weeks. You will also see the fat, corpulent drones, shorter than the queen, but larger than either queen or workers. Don't grumble at the plump, lazy gentry, for, unlike their

prototypes among us, they have their use in the economy of *their* society.

You next examine the comb. You discover that some cells are much larger than others. In these the drones are reared, while in the smaller cells the queen only places worker eggs, from which only workers will develop. Bending closely to the comb, in your eagerness to see all, you behold the long, cylindrical, slightly curved eggs, fastened to the very bottom of the smaller cells, for so early—in April—no drone eggs are to be seen. At the top of the cards of comb you note considerable capped honey, and so sharp has become your observation that you even observe that the caps are light colored, and slightly concave. Lower down on the cards you see patches of small cells capped over, but the caps are darker and convex. While looking at one of these cells, you behold with utter astonishment the emergence of a young bee all fresh and wrinkled. This, then, is the brood, and you are in raptures to see the large amount of it, and lisp something about the profit of early stimulative feeding.

Along the last of May, perhaps not till June, though the experience has been mine even the first week in May, you behold drone brood, in the large cells of course, and here the caps are not only convex, but even project, so that drone brood is a marked feature of the hive. Happy are you if you find very little of this. If there is much, cut it out and cast it away, for more than a very few drones are worse than useless. Now you must watch very closely, for soon there will be built from the face or edge of the comb great queen cells looking like wax thimbles. Now let your sharpened observation have its perfect work. Note which of your colonies is strongest in bees and brood, and cut all drone brood and queen cells from the other hives. Here is your opportunity to select in breeding bees.

TO REAR QUEENS.

Now watch for queen cells in your best colony, and so soon as you see them, with a creamy looking substance at the bottom, or at the risk of the bees swarming you can wait for them to be capped over, take one good one on each of four frames, or if this is not possible, cut out of the comb containing the cell a wedge-shaped piece, widest above, and place in an opening cut in other combs, being very careful not to press or injure the cell. And thus with four frames each containing a capped queen cell you can proceed. Now if you have a hive with frames a foot square, that will take twelve, divide the hive into four separate apartments, entirely close, by inserting division boards, and cover each apartment with a separate quilt. Place this on a bottom board so cut that the bees can pass out of and into each apartment from different sides of the hive—to the end apartments from the ends, to the middle from the sides. Now take the frames with the queen cells, also well covered with bees, but in no case containing the queen, and place one in each apartment. Go to the other hives and take four frames with much brood and some honey, and also covered with bees. Put one of these into each of the apartments. The old bees will return to the old hives, while the young bees will not quarrel, and will be sufficient in numbers to cover and care for the brood. Thus in about sixteen days you will probably have four good queens, and will be prepared for artificial swarming, which I will describe in good time. Of course you will insert empty frames in the old hives, four in each, and destroy all the queen cells except the four you used. With the added room the old colonies will not probably build more queen cells. If they do build more, destroy them.

Be very careful that the bees in your nucleus hives cannot pass from one apartment to another under the quilts, else the first queen hatched will destroy all the others.

If before cutting out the queen cells the bees should swarm, you can hive them in another hive—which of course you have all ready—by shaking or brushing them into a box or basket, and emptying them on a board in front of the hive. In all such cases put at least one comb of brood in the new hive, for then they will scarce ever go off, but in this particular case it would be better to take from their old hive four frames containing the least brood, also four frames from the other hive containing brood—though in this case shake off all the bees—and give them to the new colony with four empty frames, and make the four nuclei in the old hive. The convenient form for nuclei is another recommendation in favor of the Gallup frame. Thus well started in queen raising, we will read the old JOURNAL, study our book, and by all means not forget to look very often at the bees, and wait for further instruction.

S. R. PECK, Newport, Ky., writes:—"The April number of the AMERICAN BEE JOURNAL contains an *Editorial* on the subject of *bee-stings* and their remedies, and concludes thus: "But we have discarded every other application since becoming acquainted with a *German* remedy lately introduced. A drop or two will remove all trace and effect of a sting in a very few minutes. It costs but a trifle per bottle, and a single bottle will last a bee-keeper for a life-time." Please inform us in the May number of the AMERICAN BEE JOURNAL where, and of whom, the remedy can be obtained, and oblige a subscriber."

Voices from among the Hives.

W. M. STEELY, California, Mo., writes:—"The black bees around here have all died during the past winter, except five colonies. I shall Italianize mine as soon as the weather will permit."

MRS. ELLEN S. TUPPER, Des Moines, Iowa, writes:—"My bees have wintered well. They have come out of the cellar in splendid condition. There will be a small fortune in bee-keeping this year."

W. S. IRISH, Norton Centre, Ohio, writes:—"The AMERICAN BEE JOURNAL is a welcome visitor, and I wait anxiously for each number. Long may it prosper and continue in its good work."

ABRAM BADGEROW, Georgina, Canada, writes:—"My bees are in splendid condition. I wintered them in the cellar under my dwelling-house. There was one hundred swarms, and I lost only two. I placed them on their summer stands March 18th. Last season I had about two tons of box honey."

H. W. S. writes:—"I think it would be well to call the attention of bee cultivators who also raise grapes and other fruit to the charge made by many *that bees depredate on fruit*, and to request them all to notice particularly the coming summer to ascertain the truth or falsehood of the charge. It would also be well to notice whether bees do any service in fructifying blossoms of fruit or vegetables. If many observers would publish the result of their observations it would be of great benefit. Fruit-raisers who have no bees are threatening to poison the bees, which they can easily do, and it will be very useful to convince them that the bees are their friends and not their enemies."

SAMUEL PORTER, West Ogden, Mich., writes:—"I have been engaged in practical bee-keeping for the last two years. In the spring of 1872 I transferred six swarms into the movable frame hive. I increased them to nineteen, and lost nine in the winter of 1873. I then bought three, which raised my number to thirteen. I increased the thirteen to twenty-seven last summer, and got two hundred pounds of surplus box honey. I think that is not so very bad for a beginner. Bees wintered well and are in splendid condition at this time. I am now feeding mine on corn and wheat flour mixed. They seem very fond of it. Take from two to three pounds per day."

CHAS. F. MUTH, Cincinnati, O., writes:—"Bees wintered well everywhere apparently. It is, therefore, no wonder that mine have done so well under their straw mats. At an examination on the first of March I found them all (thirty-four stands) in first rate condition. Only one (one of the strongest hives at that) had lost its queen, and had to be united with another. Twenty-nine stands had two sheets with brood. One hive had brood in three sheets; two in one sheet; and one hive had fresh laid eggs only. A few days ago I found a queen crawling on the roof. The hive she had come out of had two sheets with brood. It was not very strong, but would pass for spring. The queen died, and the bees had also to be united with another swarm. To sum the matter up—I do not believe that another lot of thirty-four hives of bees in our part of the country wintered better than mine did, whether they were wintered in-doors or not, or whether they had sugar syrup for winter stores or honey."

H. E. CURRY, Cincinnati, writes:—"Vegetation is very forward. A week's fine weather will bring everything out in leaf. Bees that went into winter quarters in any kind of condition have come through with *flying colors*. I have heard of but few losses, and those were no fault of the bees. We are expecting the apples to bloom the middle of April, and then our honey season commences. If the weather is favorable, there will be considerable honey gathered from the fruit blossoms. All we need is the honey, and for that we have only to wait."

D. M. HALL, Lima Centre, Wis., writes:—"I commenced the winter of 1872-3 with 14 stocks of black bees and 2 of Italians. They came out all right in the spring. I did not lose any through the winter, but as soon as I stood them on their summer stands the black bees commenced swarming out and leaving their hives. I examined them, but saw no reason why they should, as they had plenty of honey. I changed them to eleven (Kidder) hives. But it did no good. They would swarm two or three together, till I had only six left, and some of them were very weak. My two Italian swarms went to work well. I increased my six to twenty-two, and Italianized them all. I kept them in the cellar under my kitchen last winter, and they have come out strong this spring, and do not show any signs of leaving the hive. They have gone to work with a vim, and every pleasant day they make the air ring with their music."

A BURNT CHILD from Georgia, writes:—I have been perusing the AMERICAN BEE JOURNAL of the last year, and like it so much that I want to continue it, and send herein the needful. I did not like the recrimination which was so rife, and am glad to see it lessened. Another objection I have is the space occupied by the business routine of the meetings of societies. It is not of interest to nine out of ten to read who is president or secretary of this or that society. Let us have more honey and less comb. But the article by Dzierzon—page 220 of the January number—is worth the full yearly subscription. In the March number, "Why don't farmers keep bees?" I will in part answer. Because they see some trying to do so, first swindled by a patent hive vender out of four times the worth of the article; then buying a swarm of Italian bees, and finding the queen but two thirds the size of the representations of her on letter backs, and having her killed in a day or so by her followers, and thus losing enough to buy honey for years."

JAMES BOLIN, West Lodi, O., writes:—"Where the bees were properly cared for, they have wintered well, but where their owners trusted to "luck" in wintering, the loss, in some cases, has been quite severe, amounting, in one case that came to my knowledge, to four out of five, and in another to the entire stock. I put one hundred colonies in my bee-house Nov. 19th, and took them out March 2nd, and found them all right, but had the misfortune to lose one colony by starvation, with plenty of honey in the hive, during the severe cold weather that occured the second week in March. The bees had clustered at the south side of the hive, which stood facing east, and the honey being at the north side the cold wind prevented their reaching it, so they perished. I have made the loss all right again, however, by putting the bees from a bee tree I found in the woods in the hive with the combs and honey left by the swarm that perished. Bees are working on rye flour, with a rush, whenever it is warm enough for them to be out of their hives."

M.D.D., Newburgh, N.Y., writes:—"I have a little to relate in the bee line, having just commenced the business by purchasing three hives of common bees, one of them without any honey, as I soon discovered. Of course they had to be fed or starve. I determined to feed candy.

Last fall a candy store in this city was overrun with honey-bees, so completely were they starved out here. I asked them what kind of candy they worked on, they showed me some made in bars called vanilla chocolate candy, that is candy made very soft and flavored with vanilla and covered with chocolate to keep it together. The bees would take every bit of the inside out and leave nothing but a mere shell of chocolate. I bought some and fed it to the bees, they seemed very fond of it, I also put some in sugar syrup and they were perfectly crazy for it. It appears to me to be just the thing with plain syrup making it taste almost as good as honey. Would not vanilla be a good thing to perfume the hive, to give them all one smell when uniting them etc., etc? Has any one tried it?

I want a bee feeder, and getting an idea from one of your correspondents about a tin can with end melted off, I am going to make one a little different. I will describe it thus: Tin can, ends off, over this tie factory muslin (outside), letting it down inside to near bottom, placed over the hole on top of the box. Then fill nearly full of syrup. But you may say it will run out too fast. Well, that can be easily obviated, put clean fine sand into the bottom, with syrup sufficient to regulate the flow, then you have a feeder, and a perfect filter also, costing less than two cents."

J. P. Moore, Binghampton, N. Y., writes:—"I commenced the season of 1873 with seventeen stocks of bees, having lost four in the spring and sold one. Ten were in fair condition by the 20th of May; the other seven were much reduced, but by taking brood from the strong ones, I was able to build up five of the weak ones by the time honey commenced to yield. The other two I run for increase and surplus queens, and was able by feeding and using my four hives of empty comb to increase the two to eight full stocks and five half stocks or nuclei. Two of the nuclei died in the winter, and the other three are very weak (I prefer full stocks for winter), and raised ten surplus queens. The fifteen that the boxes were put on, were run entirely for box honey, without increase, as we have things so arranged now that when we get a hive filled with brood, in time to put on boxes, we can have them put all their surplus in boxes, if the queen is prolific, without attempting to swarm, and without the trouble of handling the brood. The product of the fifteen stands thus:—

By returns from honey shipped, 1864 lbs. at an average of about 27¾c.,	$498.32
Honey sold at home, 120 lbs. @ 16c.,	$19.20
Honey reserved for home use, 50 lbs.	$8.00
Total.....	$525.52

Or an average of about 135 lbs. ($35.00) per hive. Two of my neighbors have done quite as well, and perhaps better. Their average has not been quite as high on surplus, but they have more increase. Bees have wintered very nicely in this section, but the weather is quite cold now, and snow is on the ground."

Wm. Houtz, Milton Centre, O., writes:—"My losses are heavy this spring. I say this spring, because I lost no bees until after the 4th of March. Since that date I have lost thirteen swarms, and am sure of losing more, because the weather is so cold that they cannot increase any, and the clusters are so small that they will not live long enough to raise any brood. Out of thirty swarms put in winter quarters I think I will probably have ten left. How is that for improved hives? I visited a bee-keeper that used nothing but a box about twelve inches square and fourteen inches deep. He started into the winter with thirty-six swarms, and let them set on the summer bench without any protection at all, taking off the surplus box that sat loosely on top, and laid on a thickness of brown paper, and then laid boards tight on that, and he saved every one. I was surprised to see that he lost none, while I lost heavily. Yet I am more enthusiastic than ever this season. I am determined to make it a success in winter. We can all raise bees and get honey in the summer-time to our satisfaction, but winter—or ought I to say long-continued cold springs?—is the great and important question. Well, if I had worked last fall to the ideas that I had in view at that time, I would have been a good many stocks better off, but it got too cold before I commenced, consequently I could not handle the bees as I knew they should be."

Francis M. Woodland, Fairfield, Ill., writes:—"Last spring and early summer the rains were so constant that the flowers secreted no honey, or at least the bees could gather none in this part of south-eastern Illinois. In consequence, the drones were killed off, and the bees swarmed out to leave the few drops of honey in their hives to the hatching brood. They then turned their attention to the grocery stores, and bushels of them were destroyed in the windows before they could be relieved by feeding. On the first of June they were weaker than at any time in the winter, and were all poor, besides, with no brood. The black bees did not recover, but the Italians soon rallied, and became so strong by August that they poured out in large swarms to such an extent that I had my hands full for more than two weeks. Then the Spanish needle bloomed and—I will only say that I believe Gallup and Hosmer both. Spanish needle bloom lasts ten to twelve days; does not yield as much as Lin, but is of a better quality, of the color of bright gold, and very thick. My bees are now in fine condition, with brood and stores, and peach buds are just opening. And now I wish to know if any one has a similar experience, as I do not remember to have seen anything written on the subject. It is this: when a fertile worker was "running a hive" and a card of brood and eggs were given them, I have never succeeded in procuring queen cells on that card at the time. But always, upon the introduction of a second card with eggs and brood, queen cells were at once started on it. *Query:* Were the old bees of the hive *too old*, and the young bees from the first card *too young*, to start queen cells before the eggs were too old? And did the bees hatched from the first card start the cells on the second? Who will answer?"

Abner J. Pope writes:—"At the last meeting of the N. A. B. K. S., the following resolution was adopted: 'Resolved, That the Secretary make an official report, in pamphlet form, of the proceedings of our annual meetings, as soon as he has the funds to do so.' All that desire to become members and have the proceedings, should send immediately their names and postoffice address, and the annual membership fee of $1.00, to Abner J. Pope, Sec'y, 170 Park Avenue, Indianapolis, Ind."

American Bee Journal

THOMAS G. NEWMAN, MANAGER.

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BINDING.—We have been requested to get sets bound for some of our subscribers, and have made arrangements to get the nine Vols. bound in three vols. for $4.00, or the same in four vols. for $5.00. Those who wish to avail themselves of these liberal terms must send their numbers by express to the Manager.

Honey Markets.

CHICAGO.—Choice white comb honey, 28@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

The Honey marked is improving. A No. 1. box honey is scarce, and can be sold at good figures.

The spring is late and the bees are still confined to the hives. I have heard of very little mortality in the bees in Missouri, so far.—Common strained honey will sell well here now and at good figures. We quote:

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO.—Quotations from Sterns and Smith, 423 Front st.

The season is about two weeks late. The prospect is very flattering for a big yield. We shall have no new honey until June. We quote:

Choice mountain honey, in comb, 22½@25c; common, 17@20c; strained, 10@12c, in 5 gallon cans. Valley honey, in comb, 12@17c; strained, 8@10c.

☞ We want several copies of No. 1, Vol. 2, of the AMERICAN BEE JOURNAL, and will pay 50 cents each for them. Who will send us some?

Every subscriber is requested to look at the date after his name on the wrapper label of this *Number* of the AMERICAN BEE JOURNAL, and if it is not correct send a postal card to this office, and tell us and we will make it right *at once*.

If you paste anything on a Postal Card, when you send to this office, we have to pay six cents postage on it. The law demands that there shall be nothing attached to it in any way, without paying double letter postage.

Some articles in this number are too personal. As the articles were of value, we concluded to publish them attended with this *mild rebuke*.

The Michigan Association of Bee-keepers will meet at Kalamazoo, on Wednesday next, May 6th.

Our subscribers in Europe, can *now* procure Postal Money Orders on Chicago. This plan of sending money is *safe* and economical.

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CHICAGO, JUNE, 1874. No. 6.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Adair Talks About Novice.

MR. EDITOR:—When the New Idea Hive and theory was first made public, Mr. Root became terribly excited over it, and time after time, in your columns, warned bee-keepers against it, as he does against everything he knows nothing about. Why, sir, he skinned Gallup and me over and over. We told him then, that the *two-story* Simplicity Hive had so completely filled his brain, that he had no room for anything else. The hive has now been tested for three seasons, and everything claimed for it has been established as true, by the best apiculturists in all parts of the country.

Root is too much of a Yankee, not to see how the thing is going, and consequently we now find him recommending, manufacturing and selling the much-abused "New Idea." He has even gone so far as to adopt the "Adair" size of frame, and now charges an extra price for an extractor that fits any other. We are glad to see this, but we must say that he submits with a bad grace. As long as he fought it, he never once thought that the Idea was old. If it turned out to be a failure, he was willing to saddle the whole disgrace on me and Gallup, who he charged were trying to puzzle and befog the "ignorant" bee-keepers. But as soon as it turns out successfully, he joins in with others. See AMERICAN BEE JOURNAL for May, 1874, where he admits that "the testimony is strongly in favor of those over the two-story hives" but is ungenerous enough to suggest that it is no "New Idea" at all. He says, "Double width hives were used in our country before this work (Progressive Bee Culture) was published, for he had mentioned in public, making hives four or more feet long." I did mention it at the first Indianapolis convention in 1870, and had a hive there on exhibition. I had then used it several years investigating its practical workings. In the same article he insists again that "The 'New Idea' *was*, if it is not now, set forth as a patent hive," as if that was an objection to it. But why does he so often repeat what is not so? I have repeatedly stated in answer to him, and others, that I never asserted a patent on it. He refers the reader to inside of the first cover of "Progressive Bee Culture," where he says, "His price then given for a Langstroth hive, fitted up on the 'New Idea' plan *with right to use* is ten dollars." Now nothing of the sort is to be found *there nor in any other place*. The proposition made on the cover of "*Progressive* Bee Culture," is just the reverse of what he states, and is as follows:

"*In order to enable all to secure the benefits of the 'New Idea'* Hive, I will furnish them with samples of Langstroth hives *or those* of similar construction, arranged for frames in the centre, and the ends filled out *with my section honey boxes, with a right to use the honey boxes* on any hive, for $10.00, etc."

I sometimes think, Mr. Editor, that I will quit writing about bees, for I must be incompetent to make myself understood. It is annoying in the extreme, to have what I consider the plainest sentence I can frame, perverted into just the opposite. Another is to be found in the same article of Root's, where he says I "condemn the Extractor." I have never done so, but merely stated that its value is overestimated by such enthusiasts as Mr. Root. *I have never condemned the Melextractor.* On the contrary, have always advised every one keeping bees, to use it. It is indispensable to successful bee-keeping. But if I find that I can make box or comb honey more profitable than extracted, can I not have the privilege of saying so without subjecting myself to such unfounded charges? If I find that the clipping of the wings of the queen is injurious, and attempt to show on physiological grounds recognized by the most eminent naturalists, why must I subject myself to being called hard names, and ridiculed by men whose experience has not been such as to enable them to detect the damage and cruelty of the mutilation? and

must I have the perversion go forth that I state that the wings are "lungs, and nose, and ears?" If I have ideas of the respirations of insects, differing from those stereotyped in the bee books, which I think lead to injurious methods of ventilation, is it fair to have every one who wishes to cast a slur, to be repeating that "Adair says bees live without air?"

I don't wish to be understood as entertaining any ill will towards Mr. Root. I like him. His spicy flippancy is refreshing, and he makes a lively little paper well calculated to tickle the fancies of the people, and is doing a good work. His monthly dish of gossip, seasoned as it is, with interjections, ejaculations, and occasionally with about as much poison as turns pickles green when made in a brass kettle, but don't kill anybody, ought to be read by everybody, for he will stick in, at intervals, something of value; but we think it should not be made a "legal tender" among bee-keepers, for so fallible an adviser won't do for an oracle. Has he ever settled down on anything? Take his writings for the last seven years, and see how often he has changed his notions about almost everything connected with bee-keeping. He first got up an Extractor, which he thought was perfection, and that he would not exchange for any other, particularly if it was "patented," but we do find him a season or two later (1871), throwing it aside and using the Peabody, which is *patented*. He accepted an agency, and let no occasion slip to puff it, and induced many a bee-keeper to buy it. After using it a year or two, he turns around and condemns it, and gets up another.

He first started out with the tall frame, in the American hive. Suddenly he vibrated to the opposite extreme, and tells us no frame will answer unless it be the Shallow Langstroth. If it is any deeper, it is too tall, if any narrower, it won't do. In 1872, (AMERICAN BEE JOURNAL of April) we find him a little unsettled on the subject, for he says, "Our greatest objection to the Gallup frame, is the labor of handling so many. Quinby uses the largest frame we know of, and we *really* like the idea." In the AMERICAN BEE JOURNAL for July, he gets down a little, and says:

"The best colony in our apiary, we believe, is in a two-story hive, *frame one foot square, and they are really pretty to handle*; just the thing for ladies to handle, but for some other reasons we prefer the Shallow frames."

Since then he has had no settled notions about it, until lately (that is since the "New Idea" has struck in on him.) He now adopts the Adair size that is 10x13 inside measurement, and can give as good reasons for its being the best size, as he ever gave for any other, and it is hard to tell what his notions will be a year hence.

As to hives,—a year ago he was particularly horrified that any one would use any other than a two-story Simplicity Langstroth, but to-day his wind mill buzz-saw with all hands, P. G. blue eyes, "and such neighbors as call in, are putting in extra time on the "New Idea," that he has so heartily condemned. In fact, he has abandoned every principle of his former hives, even to turning the frames across the entrance, instead of following Langstroth and all the hive men that he has at times patronized.

I am not finding fault with these last changes, but am surprised that after the war he has waged on everything I have written, that he should in the end adopt every principle that my ridiculous theories have established, for it was out of the "theorizing" that he found so much fault with, that the new hive grew. If he will disprove the theory advanced in Progressive Bee Culture, the hive he is now recommending as a "Standard," is worthless as all hives are that are not adapted to the instincts of the bee. He will find, however, that he will have to abandon his $1.00 notions before he can work the hive perfectly. A hive 30 inches long, is too small. The smallest I have, are 36 inches long, and cannot nearly accommodate the bees, even in a poor season. If he will give more room, and disturb the brood nest as little as possible, except to give plenty of room to a vigorous queen, with all her members and organs perfect, including her wings, he will soon have an opportunity to verify all of the theories that he has considered so absurd. He cannot do it in a 30-inch hive, for such a queen will fill it all with brood from end to end.

Do you remember how many feeders he has adopted as the best, and then abandoned for something else, from his triangular glass feeder, all the way up to the "Tea Kettle" that Mr. Quinby says he plagiarized, or something of that sort,—and how many vagaries he has indulged in, and recommended, such as sending bee eggs by mail, hatching them by artificial heat, and his many crude notions about wintering, ending in covering his hives with horse manure, and the loss of the most of them, which he informs us in May Gleanings, will prevent him from supplying those $1.00 queens that he has talked so much about? If you will look way down in one corner of page 55, of Gleanings-in-Bee-Culture, or How-to-realize-the-most-money-with-the-smallest-expenditure-of-capital-and-labor-in-the-care-of-bees-rationally-considered, for May, under the head of "Depository of blasted hopes, or letters from those who have made bee-culture a fail-

ure," you will find him whispering to himself as follows:

"That you cannot winter bees, is very evident, and unless you can show us that you can summer them, we shall have to conclude you are no bee-keeper at all."

(He certainly must have forgotten to feed his bees on A. Coffee sugar syrup).

For these, and many other reasons, we long ago concluded that Root, or "Novice," as he takes pride in calling himself, is not a safe guide, nor capable of the job he has undertaken of regulating the whole bee world. D. L. ADAIR.

Hawesville, Ky.

Sundry Questions and Answers.

CONDUCTED BY CH. DADANT.

QUESTION.

How am I to subdue bees, and shake them off deep combs? I find it makes them cross.
O. S. BROWN.

ANSWER.

Here is the way we remove the bees off the combs, to be emptied with the extractor: We take out of the hive the combs to be emptied and we replace them by as many dry combs; we close the hive; then with a small broom of blue grass or with a goose wing we brush the bees in front of the hive. As the work is done quickly the bees do not have time to become cross.

QUESTIONS.

1st. At what time does basswood blossom?
2nd. How many basswood trees are required to furnish a colony of bees with as much honey as they can gather? How old are they when they first blossom?
3rd. Will they grow on poor dry sandy or gravely land of drift formation?
4th. Has Esparcet ever been tried in this country? Where can the seed be obtained?
5th. Is there any honey yielding hedge plant that sheep will not browse?
H. A. SPRAGUE.

ANSWERS.

1st. Basswood blossoms about as soon as the main blooming of clover is over. Here (Hancock Co., Ill.) it blossoms between the 1st and 10th of July. There are two kinds of basswood which can thrive in the northern States and which do not blossom exactly at the same time.

2nd. It is impossible to answer the second question. Some times the basswood flowers seem to have been dipped in honey, while at other years the blossoms contain nearly no honey. We have planted a nursery of basswood in order to give the trees to our neighbors to plant as shade trees around their dwellings. We think that plan a good one. Lindens will bloom after six years, may be sooner, if planted already large.

3rd. From what I know of basswood which is growing extensively in France, around the cities, I think it will grow in the poorest soils.

4th. Esparcet is a plant so useful that I cannot but suppose that it has been tried in this country. May be the hard winters have killed it, or perhaps it has been tried on wet soil. Yet I believe that it can succeed in some parts of the United States.

Esparcette, or sainfoin, of Burgundy, (*Hedisarum onobrychis*) like a calcareous soil; its flower is a rose and pretty. It is very good for hay, as its French name indicates: *sainfoin*, healthy hay, and is unsurpassed for honey, as to quality and quantity.

There is in France a great quantity of plants pertaining to the same family (*the leguminous*) which for the greater part would prove a good aequisition for this country. I can name:—the carnation clover, or farouch, (*trifolium incarnatum*) which can be sowed in March to be cropped in July or August, or sowed in June for September. A very good plant for hay and honey.

The Lucern (*medicago sativa*) varieties: media, falcata, etc. The lucern gives three to six crops yearly for six or eight years, in France, its flowers are deep violet and give very good honey.

The lucern lupulina (*med. lupulina*) annual with yellow flowers; good for hay and honey.

The lotus corniculatres—good for wet soils.

The gesses (*lathyrus*) varieties: sativus, hirsuties, cicera, prutensis, etc.

The vesces (*vicia*) varieties: sativa, ciennis, eracea, this last so pretty that it is called in France *vesee elegante.*

The ers ervillia (*ervum ervillia*)

The Lentil (*ervum lens*)

All these plants belonging to the same family are good for honey, and are cultivated for hay; the last named is commonly eaten by the French people; it is with its seeds that the French house-keepers make the *puree de lentilles.*

I think it is impossible to find the seeds of the above plants on this side of the Atlantic. If any bee-keeper wants to try one or many of them, I will be glad to get them from France for them, without charging anything for my work. I am aequainted with several French bee-keepers who will cheerfully take the trouble of buying and sending the seeds desired.

5th. I know of no honey yielding plant good for hedging in this country.

In describing the "smoker" on page 121 of our last issue, the printer made Mr. Cutler's name Isaiah instead of Josiah, and it ought to have stated that had but just commenced the 84th year of his age.

For the American Bee Journal.

Italian Queens—Cost of Raising.

In the Feb. issue, M. Davis writes on this subject, and puts the cost at a reasonable sum—taking his climate into consideration.

Being the first person to reduce the price of Italian Queens from $20.00 to $2.50 each, let me say that I have never made any money at that price. In this part of the country, we are not sure of getting a fair honey crop oftener than three out of five years, and have often sent out as many as 900 queens in a season.

A Ohio man, who advertises to sell Queens at $1.00, is honest enough to say that he does not warrant them pure, as he has so many black bees in his locality—neither will he warrant safe arrival. I will not attempt to raise queens at less than $3.50 each; if my bees would store one-half as much honey, as this $1.00 queen-bee-man claims that his bees will store for him.

Adam Grimm says that good queens cannot be raised for $2.00, even in the best of localities.

Some think Mr. Quinby correct about the bee disease, and some do not. My opinion is that the cause is *poor quality of food* gathered by the bees in the fall previous.

Last season the quality was never better here, and my bees seem to be doing well on summer stands, and we have had only three weeks of very cold weather. Next season I intend to build a bee-depository on the plan of Mr. T. C. Ware, of Towanda, Ills. Will Mr. W. give his plan to the readers of the AMERICAN BEE JOURNAL? We consider it the best one yet, as it requires but little labor and expense.

H. ALLEY.

Wenham, Mass.

For the American Bee Journal.

Doolittle's Article.

Our last article carried us to Dec. 6. About that time the snow all disappeared from our hives. The mercury stood at 57 in the shade, but it was windy. Our bees had not had a chance to fly since Oct. 23, and they did fly some, in spite of the wind, although nearly all that went out never returned. Dec. 16, bees had a nice fly with the mercury at 45 in the shade. We had very mild weather from Dec. 6 to Jan. 4. Jan. 4, the mercury stood at 63 in the shade, and our bees flew to their hearts content. Jan. 22 it was very mild, until Jan. 30, when it became cold, and on the night of Feb. 1, the mercury stood at 18 below zero, which is as cold as we very often get here, and 3 degrees colder than any time during the winter of 1872-3. March 2nd and 3rd were splendid days for bees, and we had a chance to examine nearly all of them; we found our 54 colonies and 4 nuclei, all in good condition, with the exception of one colony and one necleus, which had decreased in numbers so they occupy but three rows of comb. We found brood in all we examined from four square inches of comb, with eggs and forage in the cells, up to 200 square inches, with brood in all stages, and plenty of young workers.

The winter on the whole has been a very mild one, with but little snow. We have never known the mercury to sink to zero, unless we had snow enough to bank at least to the height of the broad chamber of the hive. As mild as the winter has been, we have kept them banked out of sight nearly half of the time. We put straw in the caps to our hives march 20, to set them to breeding rapidly. It makes them so much warmer.

We tried two, during the winter, with caps packed with straw, but when we came to bank them with snow, they became so warm and uneasy, we had to take it out again. We keep entrances closed as tight as we can make them, except when the bees can fly, and take no trouble to have any crooks or holes in the cap; neither do we fear their smothering.

G. H. DOOLITTLE.

Bowdens, N. Y.

Bee Notes and Queries.

"*What is the Best Hive?*"—asks a correspondent. Probably there are not a half-dozen bee-keepers in the country who would unite in recommending the same hive as "the best."

Asters as Bee Plants.—A correspondent writes:—"I am satisfied the common Aster is an excellent honey-producing plant. A friend of mine, an experienced bee-keeper, recommended it to me, and my experience with it two seasons confirms the recommendation."

To keep Moth out of a Hive.—An Illinois lady says, "A teacupful of Italian bees will keep all the moth out of a hive. You need not buy a hive which runs to a point at the bottom so that the moths will roll out; an Italian swarm of bees are a perfect protection against moth."

Remedy for Bee-Stings.—A bee-keeper says:—"I have made one discovery—that a preparation or *Ledum palustre* (Labrador Tea) homœopathically prepared, is a sovereign remedy for bee-stings." But he does not tell us *how* to prepare it.

SAMUEL PORTER, West Ogden, Michigan, writes:—"The May number states that I took 200 pounds of surplus honey from my hives. It should have been 1200 pounds."

Novice.

DEAR OLD AMERICAN BEE JOURNAL:—We are right glad to see your pleasant face so early in the month, and also to find that your humble servant is still remembered occasionally on its pages. Tell Argus that "old Syrupy" has got his hat and coat on now, for in fact this 29th day of April has been about as cold as any day in January. The ground is frozen, and snow has been on it for two days, yet we are happy to add our *twenty-two colonies* stood it without any further diminution of their numbers. If he did call us "old Syrupy," we thank him for his remark that *Truth* might be found somewhere betwixt Mr. Quinby and our own "hobby," although the "meeting" seems unlikely just now for some time to come, from the tone of Q's letter.

We are so used to being taken to task, that we think we have become almost hardened, *i. e.*, in such a way that we can take a "big crack" right square on the top of the head, and look up pleasantly after it, instead of feeling about for something with which to give our opponent a "harder crack" back again, as we have done *by far too often*, and thus keep up controversy. We are perfectly willing to leave the matter to the judgment of our readers, and will abide by their decision after having submitted enough from Mr. Q's circular to show just what he does claim for his hive. He says:

"In consequence of the advantage which this hive enables us to take of the labors of the bees, by preventing their swarming, etc., it is safe in a good season to calculate on an average of one or two hundred pounds of box honey, or two or three hundred when the combs are emptied with a machine—which will sell for more in one season than the price of colony."

The only question is, whether Mr. Q. is justified in offering his hive for sale to *novices* with so high an estimate, and more especially using the words, "on an *average*."

Mr. Q. did make us a present of the hive, and he has our sincere thanks for the same, for we presume he then supposed it would prove profitable in our locality also, but the fact would not deter us an instant from giving our honest opinion of the merits or demerits of anything prominently before the people.

With Mr. Quinby's *full consent* and approval,—and it must be given more pleasantly than in his article alluded to, we will undertake the task of giving full directions, with illustrations, on these pages, for making a perfect *fac simile* of his hive for four dollars. After that, if no one can be found to do it, we will make them singly or by the quantity for that price, or 25 per cent. less, packed ready to nail, *everything* furnished. The sample we are to model from, shall be some one that he has sold before this appears in print.

Mr. Van Deusen did also send us a small bee-feeder, but we wrote him at once (thanking him), and telling him we had been using the same thing for some time, and that we were sure a patent would not "hold" on the simple idea of covering any utensil with perforated tin, to be used inverted, as a bee-feeder. This was some time ago, but *long before that* the same device had been described many times, (and is now) in the earlier volumes of this very AMERICAN BEE JOURNAL. Instead of using fruit jars and oyster cans, with many holes punched in them, we suggested using a whole "tea kettle," because it would hold from twenty-five to thirty pounds,—or enough for winter, at once. E. Kretchmer, on page sixty-six, March number, mentions the same thing again, as being *patented*, and so far as his caution is concerned, we would respectfully invite him to try the "strength" of such a patent on ourselves to commence with, before trying to convince the public that the very useful and simple device is not free property to every one. If this appears hard on Mr. K., we would say by way of apology, that he is an old offender, and has led many good people to question whether they had a right to make and use such simple feeders.

Mr. C. C. Van Deusen, Sprout Brook, New York, has *now* a patent on a very simple device, for filling these feeders, and as they are sold at a fair price, "right" included, it may be many times best to purchase them of him. We feel sure he will agree with what we have said in this matter. We respect our patent laws, and would uphold them when they are not made a pretext for the now almost obsolete "right"-selling swindle.

On the contrary, we think quite favorably of Gallup's strong stocks for out-door wintering, and agreed with him in thinking they perhaps would not do so well in-doors. Had he and Adair explained in a few simple words that their "New Idea" was "a long, one-story hive, with lots of bees in it," we should have had no trouble in getting at it. Some way, there always seems to be more of a temptation to "hit back," when *Gallup* gives one a "clip," than any one else. Why *do* so many keep tilting at *Novice's* dollar queens and hives? We only proposed that it would be a benefit all around for any one to sell *any queen* before she was tested, for $1.00. Would such queens be in any way inferior in fertility? Very many excellent breeders now offer untested queens for $1.00, and their customer stands an equal chance of getting the very best. Selling queens *known* to be poor, for $1.00 each, would

be an act of dishonesty, and would sooner or later bring its own reward.

Please do at least give us the credit of disinterestedness in this matter, for we feel sure the business will pass along more briskly if queens are sold as soon as fertile, at a low price, and the accommodation will be on both sides. When the possessor of a queen has tested her himself, he is satisfied, and he is rarely otherwise.

Many are the bee-keepers who would feel that the business paid tolerably well, were it not for the unceasing demands and continued outgoes; if we have shown any, how they could lessen expenses and still be just as well off, we shall have fulfilled our purpose in writing. If in our zeal we have now and then gone to extremes, please excuse it on the ground that it was only what might be expected from your old friend

NOVICE.

P. S.—When we get each one of our twenty-two colonies built "out" so that they fill a ten-foot hive, we suppose the queens will be worth ten dollars each, and were it not for spoiling their wings, we might cut them up in ten square slices at a dollar each. Speaking of wings, reminds me that we have read of ants biting off the wings of the mother ant as soon as she was fertilized, for some reason best known to themselves. Can't some one tell us more about it, and are the ants to be censured for going contrary to nature?

For the American Bee Journal.

Do Bees Injure Fruit?

W. F. CLARK:—*Dear Sir:*—In the March number of the AMERICAN BEE JOURNAL, (p. 63) Mr. A. O. Kruschke, of Berlin, Wis., accused the *N. Y. Tribune* of not publishing an article on the above-mentioned subject, in reply to and in censure of "that wise (?) Prof. Riley." To show that the accusation was unjust, I mailed the correspondence of the *Tribune*, which you have kindly published in your April number (pp. 76, 77). Permit me to say further, in reply to Mr. K's remarks, that I have no personal feeling in this matter, and I can well afford to leave it to your readers to decide, from which side comes the personality. For while the charges of crime and presumption, the taunts of sapiency and "wisdom," and cowardice might well arouse some feeling of the kind, I have endeavored to avoid such. My object is to state the truth, and my opinions are based not on a single experiment, but on repeated observation. Mr. K. may stigmatize them as presumption, but others will show more consideration and less egotism. Mr. K. may consider it his "duty to be a bee-defender," but I know no other duty as a naturalist, than to state my convictions as to the truth; and herein lies my "crime." I *have* seen bees cut into fruit, and there is no imagination about it. The wisdom of my recommendation to the horticulturist who in extreme cases suffers from bee-injury, may be questioned; but none but prejudiced persons will *doubt* my statement of fact, and call my opinion based thereon presumption. Facts so often witnessed in the vineyard are not overthrown by a single adverse experiment. We have laws to protect us from the inroads of cattle left roaming at large, and if in exceptional times when the ordinary food of the commons is short or entirely lacking, our neighbor does not take proper care of his four-legged stock, but allows it to depredate on crops, legal redress is at command. But under similar exceptional circumstances, we have no legal protection from his six-legged stock.

Finally, I hope Mr. K. will, as he promises, continue his experiments; and as they may not all turn out like his first, he may yet learn to cultivate a due degree of modesty in the use of unpleasant and personal epithets; for truth will in the end "shame the devil."

In line 15, p. 77, "observe" should read "obscure."

Yours, etc.,

C. V. RILEY.

For the American Bee Journal.

Bee-Keeping in the South.

We of the South, the native home of the bee, know but little yet of his management as practiced by our Northern neighbors; and, in fact, the results produced by some, as at least claimed, are perfectly astounding to us. Some, however, pretend to account for it by saying that bees know their necessities, and prepare for them accordingly; that in cold climates they lay up greater stores than in warm ones, and that on the peninsula of Florida, where there is no frost, they lay up no stores at all. This theory I believe to be nothing more than theory, and that upon trial will be proved to be wholly without a foundation in truth.

We have none but the native bees here, yet, and I wish to learn to manage them more successfully before making any further investments. I saw the first movable comb hive last year. Transferred two colonies on the 25th of July. One was destroyed by moths; the other did well They are now working vigorously, and, if not prevented, will throw out a swarm in a few days. I have watched bees more closely the past winter than ever before, and I do not think there were ten days in succession at any time during cold weather that they could not fly out; and by the 14th of Feb. they were in full blast, gathering honey and pollen from a thousand flowers. This must

appear strange to you in the North, who are compelled to keep the poor fellows buried in cellars half their lives, in order that they should live the other half. I do not know what particular flower here gives the greatest yield, but I guess the bees know, and I suppose the supply is ample. Where the flowers are so numerous and so buried as they are here, there can be no excuse for idle bees, if there are any such. I can see no reason why the business should not be more profitable here than farther north, if managed with the same care and skill. J. B. MITCHELL.

Hawkinsville, Ga.

For the American Bee Journal.

Bee-ology in Kentucky.

I will give the readers of the AMERICAN BEE JOURNAL a sketch of Kentucky Bee-ology as practised hereabouts. There is but one scientific bee man in this part of the country. I allude to R. M. Argo, of Lowell. The farmer, the mechanic, the merchant, indeed all hands here, keep—or rather, "keep at"—a few stocks of bees, but pay little or no attention to them. If one or two stocks, say out of ten or a dozen, happen to do pretty well, the owner will say he had "good luck," if not, "bad luck."

Kentucky until the last two or three years was, perhaps, as good a State for bees and honey as any. Our principal dependence for honey here is upon the white clover and basswood, or rather, as a Kentuckian would say, "Linn."

In 1872 we had a short crop of both, last season scarcely any of either; consequently our bees did no good whatever. Out of a dozen good, strong hives I did not get over twenty-five pounds of cap honey.

I imported the first Italian bees brought to the State. In the year 1861 I purchased two queens, one of Rev. L. L. Langstroth, and the other of Mr. K. P. Kidder of Burlington, Vt. I received the one from Mr. L. all right, and with the aid furnished by his instructions had but little difficulty in getting her safely introduced into a stock of common black bees. When I received the one I ordered of Mr. Kidder, the comb in the box had been broken down and the queen crippled. I introduced her, but she soon died. I informed Mr. Kidder, but he would not replace her.

I watched the progress of the other with much interest, and in about fifteen days saw her progeny begin to come forth. As no one in the county had ever seen an Italian bee it was quite a curiosity, and many persons came expressly to see it. I afterwards ordered some queens from Mr. L. for some friends, but owing to the great quantity of full-blooded black bees in the county it was impossible to keep them pure, and until Mr. Argo, of Lowell, went into the business, some years afterwards, and purchased all the black bees in reach of his apiary it was impossible to raise anything like pure queens. FINNELL.

Kirksville, Ky.

For the American Bee Journal.

Pleasant Remarks.

On page 41 "Novice" intimates that we have hard feelings toward him, because on page 142, Vol. ix. we resented his imputation that we sought to advertise our simplified Simplicity Hive and frame in the pages of the JOURNAL. We are certainly pleased to learn that he was only indulging in one of his pleasantries. We are frank to say that the aforesaid "pleasantry" touched our sensitiveness, and we wrote the answer on the spur of the moment, and when it appeared in print we were sorry. If Novice feels hurt, let him consider the hard raps he has given others who have feelings as well as he. Those free criticisms have produced wounds that mere explanations will never heal.

We rejoice to see a different tone in the writings of some of our bee men, and in the conduct of our Bee Journals. Instead of being conducted for selfish interests, and utterly ignoring each other's existence, there has arisen a brotherly feeling and a disposition to lend a helping hand. We observe that since the birth of *Gleanings*, Novice has come down to a milder way of expressing himself than formerly. We are happy to see it, and if we have written anything not in accordance with kindly feelings we crave pardon. We will accept "pleasantry" as an explanation, and trust Novice will treasure up nothing against us for our hasty remarks.

Hartford, N. Y. SCIENTIFIC.

For the American Bee Journal.

Bees' Breathing.

"In your April number, page 84, second column lower half, Mr. Adair makes some assertions which have often been made by others, but which appear to me so foolish that I cannot help noticing them. He says: "The last paragraph is the statement of a fact that has been settled among naturalists for a long time, *i. e.* that the bee inflates its body with air when about to fly, so as to decrease its specific gravity when flying. This is not only applicable to insects, but ornithologists state that birds do the same thing, even filling the hollow barrels of their feathers and quills with heated air or gas." Now I want Mr. Adair to explain. I will grant *for the sake of argument only*

that the bees' body has hollows in it, not filled with anything but air or if he chooses not even air, and also that birds have hollow bones and feathers. This latter is not peculiar to birds. Animals have hollow bones where great strength is not needed and because nature does not put material where it is of no use. Now if these hollows in bees or birds have no air in them before they fly, how can they make them lighter by putting air into them. That would make them heavier. If these hollows have air in them, that air is at about the same temperature as their bodies. If they could make it warmer it would be no lighter unless they could expel some of it and thus make a partial vacuum. But they cannot make it warmer and therefore cannot expel it. They might press more air in but that would make their bodies heavier.—In short, bees or birds have no power to make their bodies lighter or heavier at will. I think Mr. Adair cannot properly call his supposition a *settled fact*. W.

For the American Bee Journal.

The Extractor versus Honey Boxes.

A great many experienced apiarians are advocating the exclusive use of the extractor for obtaining surplus honey, speaking of boxes (with them) as things of the past and looking upon those who use them as inclined to "old fogyism."

In this age of the 19th century, progress and improvement are the watchwords; are we not then a little too much inclined to go after things of the "new idea" order—throwing up our hats every time we hear of anything in bee-culture which strikes us as being a deviation from the old path—running our apiaries upon windmill principles—talking about barrels and hogsheads of honey to be secured the coming season in spite of drouth or storm, when in fact our stocks are daily diminishing in numbers, and it is only by exercising the greatest vigilance that we can prevent the native blacks from running out our pet Italians.

That the extractor is an indispensable article in a well managed apiary, probably all acquainted with its working will admit; but that beautiful comb honey is to be supplanted by the extracted article will only take place when the eye hath lost its admiration for beauty, and fancy and style have nothing to do with the sale of this staple luxury.

So long as the idea of crushed bees and other impurities is connected with the sight of strained honey, just so long will that put up in fancy boxes continue to command the higher price.

Were all honey raisers the coming season to run their apiaries exclusively for extracted honey, and the season be as good as was the past, I fear our markets would be glutted and the crop find, at wholesale, a price but little above that of ordinary strained. The low price at which it was quoted the past fall and winter in the principal places of consumption throughout the country I think will bear me out in making this prediction.

While honey in glass boxes in New York was quoted at from 30 to 35 cents a pound, wholesale; extracted and strained was only put down at from 12 to 15 cents a pound. To be sure we sometimes get a better price for it when put up in jars, but how are we to keep it from hardening? In the language of D. W. Quinby, commission merchant, handling large quantities of honey, and brother to M. Quinby, "it soon candies, looks like lard and don't sell." I have a doubt as to whether these advocates of the slinger theory believe they obtain as nice an article by using the extractor, as that stored away, evaporated and sealed by the bees themselves. Has it the luscious richness to the taste? I have heard good judges of honey say it has not.

For example, take from the box a flake of white comb honey built just the right size to fit a small plate, and it is of itself an ornament even to the table of the rich and will tempt the palate of an epicure. Slice that comb up into small squares to be passed to each individual, and can anything in the shape of liquid honey excel, or even compare with that which drains into the bottom of the dish from the severed cells—clear as water from the limpid spring—aromatic as the flowers from which it was culled—tempting to both eye and taste and pure as ever are the unadulterated productions from natures laboratory.

The symmetrical beauty in the structure of the comb, each tiny cell a perfect hexagon and solving a mathematical problem in Euclid, furnishes a subject for conversation, and all are ready to praise the industry of the little bee endowed with such wonderful instinct. No wonder the old poets sang to its praise; for the product of its labors furnished an article of export from the islands of the Mediterranean to an extent beyond anything we hear of in these modern times of imported queens and honey slingers.

I do not make these comparisons in a fault-finding spirit, but merely to look the subject square in the face without ignoring what others have done before us.

For the past few winters bee-keepers have had a serious difficulty to contend with and I fear the advantage gained in building up swarms by the use of the movable-comb frame is more than offset by disastrous losses in wintering, and a close canvas would probably show that in the United States there is not more than

one bee-keeper where there were ten several years ago, and is not this loss often greatly endangered by the too free use of the extractor, often leaving hives in a starving condition at the close of a good season?

Some of our largest raisers and shippers of box honey are among those who do not report their experience through the bee journals.

A few years since Capt. J. R. Hetherington of Cherry Valley, in this State, sent to New York market 25,000 pounds of box honey "as reported" of his own raising. The same fall Baldwin Bros., of Sandusky, N. Y., shipped to the same market 10,000 pounds, mostly from their own apiaries, although at the same time extensively engaged in raising Italian queens for sale.

I was informed by a commission merchant that a firm in Steuben Co., made one shipment of 5 tons. Besides these large quantities there were a great many smaller lots varying from 500 to 5,000 pounds yielding to the producer an income of no mean significance. The same course has been pursued every fall since, except perhaps not on quite so extensive a scale. Could the managers of these apiaries be induced to give their experience through the columns of the bee journals, what an amount of testimony would be given in favor of using boxes, besides adding a large amount of practical information to their columns already so replete with useful knowledge. It matters not how large may be the crop if we have our surplus in suitable shaped, four-sided glass boxes, it will find quick sale at good remunerative prices without return or loss of barrel, as box honey in this shape sells at gross weight without any question, the boxes often paying 100 per cent. above cost of manufacture. We are well aware that glass weighs heavy, yet consumers want it in this shape and are willing to pay a fancy price for a fancy article, and in this case it pays better to let them have their own way, and not be quarelling about tare on old wooden boxes. The season for 1874 is now at hand, and as many apiaries will be run almost exclusively either for box or extracted surplus, I hope at its close those of us whose lives are spared will have the benefit of a good many favorable reports pro and con; yet with many others I am loath to believe that fancy box honey will ever be supplanted by the extracted article.

C. R. Isham.

Peoria, Wyoming Co., N. Y.

When a hive of bees is kept in a state of alarm by the tormenting ingenuity of mischievous boys, the time in which they would be ranging over the fields in search of honey and pollen, will be lost in defending their premises.

For the American Bee Journal.

Report from my Apiary.

On making an examination of my sixty odd stocks last August, I found all except about ten, on the verge of starvation. I immediately commenced feeding, and in the early part of September united so many as to reduce my stocks to fifty, and then fed my bees over three barrels granulated sugar. Wintered on their summer stands without the loss of a single one. Found one this spring, queenless, which I united with a weak one. My bees now, are in splendid condition; good brood in all, and plenty of stores.

On returning home from church on yesterday, and after getting my dinner, I walked out in my bee yard, and the first thing that attracted my attention, was a swarm just issuing, this one being the first of the season. Was not expecting a swarm so soon. I have to report the loss of hundreds of colonies in our county last winter. The cause was nothing more nor less than starvation. The old idea of luck in bee-keeping has with me entirely exploded. I am buying plenty of nice, empty worker comb at twenty-five cents per pound. The season so far has been very unpropitious for the honey-gatherers. The "oldest inhabitant" says we have had more rain this spring than was ever known before. The rains are followed by cold and cloudy days. The main honey crop here is gathered from white clover, which is said to be (this spring) unusually good. As last season here was the poorest ever known, I am in hopes this will be the best known for years.

Will. Wilson.

Bardstown, Ky., April 27, 1874.

For the American Bee Journal.

Queen Clipping.

The extent to which this practice is now being carried, is to my mind, truly alarming; bids fair to endanger the very existance of the Italian race of bees, and thus, if persisted in, break up bee culture as a pursuit.

I do not stop to enquire how far Gen. Adair may be right or wrong in his scientific theories, or his opponents in opposing them; but am firmly convinced that to maim anything, impairs its efficiency. There are a few considerations which seem to me conclusive arguments against this practice.

1st. Those from analogy. We look for stout offspring from stout parents; weak from weak. We are told that fish found in the Mammoth, and other caves are blind, having been shut out from the light for generations,—showing that the proper exercise of the muscles, nerves, and other

organs of the eye is necessary to preserve the sight. Should we clip the fins of these fish for a like number of generations, would not the muscles which propel the fins, wholly or partially perish from lack of proper exercise, and thus produce either a finless race or one with puny fins. Confine the arm in a sling from childhood to manhood, and thus suspend the exercise of the propelling muscles of the arm, and what is the result? a shrunken and useless limb; on the other hand, for the same length of time, wield the blacksmith's sledge with the same arm, and powerfully developed muscles are the result.

We are told that a race of bob-tailed dogs has been produced by the successive severence of the dorsal extremity.

We know the turkeys, and other domestic fowls, as well as animals, have by domestication been dwarfed in their powers of locomotion by the no longer vigorous exercise of those muscles which speed their movements; and their progeny are likewise feeble in the muscles of propulsion. Thousands of analogies might be adduced to show that "like begets like" but these would seem to suffice. In all the cases of impaired locomotion the propelling muscles have been idle for generations, and thus weakened. The progeny of the succeeding generation partakes of the weakness in this respect of the preceding.

If bees should excel in any one thing, it should be in their powers of flight. Now clip the wing or wings of the queens or mother bees, and keep up this clipping for generations, thus stopping in the line of descent the healthful exercise of the wing muscles, must it not inevitably result, if not in a wingless, at least in a race with impaired wings. Long before they became wing less the operations of the hive would cease.

2nd. I believe the workers regard a clipped mother with suspicion, and at times supersede her, or else she dies more readily from this cause. Three out of five of my clipped queens died last season, two of which I found dead in front of their hives; whilst out of thirteen unclipped queens, I lost not one that I know of.

3rd. Clipping does not always prevent the queen from trying to lead the swarm, in which case she falls and may perish.

4th. It is inconsistent with the spirit of the age, which is to improve both animals and plants rather than to deteriorate. Clipping cannot improve or produce a more perfect insect. Some writer even advocates clipping one leg. If the queen has any use for wings and legs, that use is impaired by this practice; and is it not wiser and safer to pursue that course which to say the least cannot injure, in preference to that which may, and let her wings and legs alone?

Decherd, Tenn. E. D. SANFORD.

For the American Bee Journal.

Natural and Artificial Food.

Among the many peculiar conceits of mankind, there is none perhaps more common than that of investigating one's own ideas with a great deal of importance; even though the same ideas, or supposed discoveries have been common to others long before and not emblazoned as anything at all wonderful or astonishing.

An Ohio bee-keeper having been led from some cause or other to feed sugar to bees with seeming good results, straightway proclaims the fact to the world, as a great discovery of his own, when the truth is that it had often been done before, and without very greatly agitating the bee world.

Doubtless bees can be wintered on sugar syrup, if properly prepared; but that it is in any way superior to the food which nature has taught the honey bee to gather for its own use, I am very far from believing.

Man may often by scientific knowledge concentrate, intensify, or direct nature's forces to certain ends and objects, but when he attempts to substitute one of her provisions for another, he very rarely improves ubon the original. While I disbelieve in the superiority of sugar as food for bees, still less do I believe in its prophylactic properties. At its first suggestion as a remedy for or preventive of so called dysentery in bees, I am incredulous for the foregoing reasons, and the results of many experiments of eminent apiarians as well as my own, has tendered to dissipate entirely the idea of its sanitary qualities.

Perhaps an item of my own experience, bearing upon this question might not prove uninteresting.

In August 1872, after basswood had ceased to yield honey—which is the last we get here of any consequence—I found that my bees' stores were insufficient to winter upon; consequently I fed to some 25 stocks, 1½ barrels of A coffee sugar made into syrup. It was fed during the hot days the last of August, so the bees could put it in good shape for winter; and in order to thoroughly test the properties claimed for it, I fed a few late swarms, which had made considerable comb, but little honey, sufficient sugar syrup to last till spring. In order to show that the syrup was well prepared, I would say that I can show any amount of it to day in the combs of the hives, out of which the bees died, that is not grained at all, but is of good consistency and in fine condition for bees.

About the 1st of January following, my bees commenced dieing of dysentery, and

the first to die were some of those fed on all sugar syrup, and before the 1st of May every one fed with sugar, was dead.

I do not wish to be understood as saying that those fed with sugar suffered particularly worse than those not fed at all—for the mortality was very great among all—but that it had no effect in preventing disease, nor has it in any other cases that came under my observation. It may not be out of place to say that my bees were wintered on their summer stands, in movable-frame, double-cased hives, and nicely quilted on top. I went carefully through my apiary and placed (after feeding was done) empty combs in the centre of the hives, and the honey or sugar each side of them.

The great mortality of bees for the past two winters is a fruitful subject for discussion; as yet, but little light has been thrown upon the matter, although I have full faith that it may and will be finally understood.

I will not attempt at this time to give any theory of my own upon the most vexed question, but may at some future time give some facts of my own experience bearing upon the subject. N. M. C.

Ellington.

For the American Bee Journal.

My Experience in Bee-Keeping.

I have kept bees, more or less, for the past four years. During this time my experience has been of a varied character. Through the summer season my bees have done well, and amply rewarded me for my labor and trouble. But my high hopes and bright anticipations were destined to be blasted by the loss in wintering.

In the winter of 1870, seven swarms came through all right on summer stands. I bought two in the spring of 1871; took four on shares, increased, and commenced the winter with twenty-three swarms on summer stands. They all died, and the spring of '72 found me without a bee,—but not discouraged. I concluded to stick to the old motto, "If you don't at first succeed, try, try again," and "what other folks can do, why with patience may not I?"

In July I again ventured to invest, and bought four young swarms, also one swarm of Italians. As they were late colonies, they did increase, and I again attempted to winter these five swarms on summer stands, with but light protection. I was again doomed to disappointment and loss. The spring of '73 found my bees all dead, with plenty of honey in their hives, which showed they were not starved to death. I now made up my mind not to try out-door wintering again. I was determined not to give up if it took my "bottom dollar." In April I bought ten colonies of hybrids, six of which died before the first of May. Then, besides, one colony of pure Italians, bought of E. Gallup, in June, proved to be very prolific, I Italianized and increased artificially to nineteen swarms. Took from them 300 lbs. honey, twenty-five of which were comb honey, and the remainder "extracted." Did not get my extractor till late in the season. Sold both comb and extracted honey for 25 cts. per lb., and could have sold 1,000 lbs. more if I had had it. The extracted was taken in preference to comb. I prepared my bees for winter, by taking the covers off and raising the honey-boards, to give ventilation, and setting them in the cellar, about two feet from the ground. All except two had an abundance of natural food. The temperature ranged from 32 to 40 degs., usually 35 deg. They are in fine condition, except two, which we have fed on candy.

E. A. Sheldon.

Independence, Iowa.

For the American Bee Journal.

Gallup's New Idea Hive and its Advantages.

Some one has asked for a description of the New Idea Hive, as I use it. For an experiment, I have used my standard frame. But if I was going to commence anew, I should make the frame *wider*, for reasons which I will not now attempt to give. I make the hive four feet long (inside measure) twelve inches deep, and fourteen inches wide. This hive holds thirty-two worker combs. I double case the sides, leaving one-fourth inch dead air space between outer and inner case. The object of double walls is, if bees cluster against the wall, it is warm; while if they cluster against a single wall in extreme cold weather, the consequence is chilled bees and dysentery. I use three honey boards, or the Bickford quilt will answer, just as any one fancies. I use a four-inch chamber, spread cloth over the frames for winter, and fill in with two or three inches of sawdust. Now place the roof over all, make winter passages through the centre of all the combs, but the two front ones, close the rear entrance and you are ready for winter.

I make entrances in each end just alike *nearly* across the end at the bottom, and regulate with entrance blocks; and a little above the centre I have an inch hole in each end. With a full stock, and in hot weather, both ends are open. The inch hole in summer, while the bees are gathering honey rapidly, allows the moisture to pass off which is evaporated; and we never have a puddle of water for the bees to pass through early in the morning; and in winter, providing the hive gets buried in snow, the bees

will never smother,—even if the lower entrance should become fastened up with ice.

You will see that the combs run crossways of the entrance in this hive. The advantage of this hive is, bees winter perfectly, and with as little consumption of honey in proportion to the number of bees, as they do in a cellar or special repository. They never fly out in winter, providing we have the cluster four combs from the entrance, unless the weather is warm enough for them to take a flight without loss. We never have to shade the entrance as we do other hives, with combs running from front to rear to prevent the bees from flying in winter. It is a perfect non-swarmer, providing we take their honey from them and do not allow them to restrict the queen from breeding. We can raise more bees in this form of hive with less manipulation, than any other form we ever saw, and it always takes bees to gather honey, with us. Mr. Langstroth, in a private letter, says, "*The improvement in hives is as great an advancement in bee culture, as the invention of the movable comb or extractor.*"

Again, providing we place a large swarm in this hive, all the comb is built worker-comb, and if we take out a comb and insert an empty frame, it is filled with worker-comb every time with us, and this is an item of no mean value. Mr. Adair has been ridiculed for advancing such ideas, and I may be also. But *there are* people that wish to advance in bee culture, and there is no harm in giving our ideas to such. I have fully tested the hive, and am so well satisfied that I shall make more of them. I have a stock that now occupies twenty-six combs, with bees. I wintered one small late swarm in the hive last winter, for an experiment, and I never wintered with better satisfaction in the cellar, and my strong stocks wintered splendidly, and every one knows that the winter of 1873 was severe enough as a test, to satisfy the most fastidious.

In this hive we have no use for a division board. Understand that what I call a strong swarm would be two swarms put together from ordinary 2,000 cubic inch hives. We have ascertained to our own satisfaction, that one good queen without any care whatever, will occupy over 4,000 cubic inches of comb in the ordinary manner with brood, in this form of hive. We use the extracted or cell-comb honey in the frame. In this climate we can extract all the honey made up to the middle of August, with perfect safety. In such a hive, and with the Italians, and good, common sense, we have a permanent institution.

No cold, chilling, dampness, or imperfectly evaporated honey, causes dysentery. We have no dysentery in this hive, providing we use good, common sense. The Italians will renew their queens almost invariably, and with my management there is no feeding to be done at *any time*. They are self-supporting. They breed later in the fall and earlier in the spring; consequently are always strong in numbers, and with us strong stocks are the sheet anchor to successful bee-keeping.

The past season was the poorest that I have seen since I came West. I sold my stock down to fifteen all in large twin and New Idea hives. From seven I increased up to thirty-six, and from the other eight I took 800 lbs. surplus. Now I am not the only person that has been testing this hive. But I have had it tested in Michigan and other parts of this State, and think I am not mistaken if I do claim that every person will like the hive, or that every one will succeed. But I claim that what I have done, others can learn to do. This morning, with the thermometer 20 degs. below zero (Feb. 24, 1874) by listening at the front of my twin hives, the bees are making a loud, roaring noise, showing conclusively that they have to consume honey largely to keep up the warmth. But listen in front of the long hive, and we only hear a gentle buzz or hum, and in moderate weather we can hear nothing, unless we jar the hive, showing just as conclusively that the consumption of honey is but a trifle in comparison.

Now I have used two-story hives, and could use them again, but I know that a two-story hive is not adapted to wintering on the summer stands; neither can we raise anywhere near the same amount of brood that we can in the horizontal hive and continuous chamber. The difference is so marked when we take the season through, that any person must be terribly prejudiced that cannot see it. The hive will cost more than one dollar, and it will be worth more.

E. GALLUP.

For the American Bee Journal.

Top and Side Surplus Boxes.

A question in which some are interested is: "Are top or side surplus honey boxes best?"

When a new swarm enters an empty hive and commences work, they commence at the top of their hive. For this there is a very obvious reason. The form of their bodies and the nature and form of their comb, makes this the most convenient way to operate. From the top they can hang in clusters and work upon the comb and build down half way to the bottom of the hive before the top is fully completed. If top surplus boxes are used when first placed in the hive, they will probably enter them first. If it is a small colony it will be some time before comb will be prepared for the deposit

of eggs in the body of the hive, and brood will be raised in some of the boxes, injuring the surplus honey. If the breeding apartment is as high as the boxes, the boxes on the sides, may be entered by a part of the swarm, at the same time with the commencement in the breeding apartment without danger of brood in the boxes. If the swarm is a large one, from 50 to 100 lbs of surplus honey may be expected the first season.

The side and top boxes both may be placed on as soon as the weather becomes warm enough, that no delay may be caused to the breeding.

"*Which are best for surplus?*"

This question sometimes receives an answer according to the interest or prejudices of the writer. If a man uses top boxes only, in his operations; he probably thinks and pronounces them best. If one has used only side boxes, he probably is decidedly in favor of side boxes.

I have thoroughly tried both. I have had 24 side boxes upon a hive and no top boxes. I have had 18 side boxes and 9 top boxes upon a hive at the same time. I have been unable to discover any important advantage of one over the other, as to time of commencement or success in using them. Those upon the top have some advantage from the warmth arising from the body of the hive. The side boxes may have the advantage of ease of access and proximity to the entrance to the hive.

I have made it a rule to place guide comb in my boxes to encourage early commencement in them. In the top boxes, the entrance is through the bottom, and the guide comb is attached to the top. My side boxes have glass on the outer and inner end of the box. Inside glass is from one-half to one inch narrower than the height of the box, leaving an entrance of one-half to one inch wide between the glass and the top of the box. I attach guide comb to the top of the box so as to come even with the glass, of about one inch square. I remove the movable partition having the sheet of comb in the breeding apartment entirely uncovered. I then set the nine side boxes on each side; three on the bottom of the hive with the inner end of the box, one-half inch from the comb in the breeding apartment; bringing the guide comb so near that the bees can pass to it as readily as from one sheet of comb to the other in the hive. I then place the nine top boxes upon the top of the hive and the side boxes. With boxes thus prepared and arranged; the nine boxes were as readily entered and occupied and fitted as those on the top. I think the important points are; have your boxes on early; place them in intimate connection with the hive, with small pieces of guide comb to encourage early commencement in storing surplus.

To attach the guide comb, when constructing the boxes, I prepare 10 or 12 more or less ready to receive the top, I lay the top bottom upwards, cut as many pieces of guide comb as are required; I take a lighted candle in my left hand with pieces of guide comb in reach, heat the edge of the pieces in the candle and then press them to the top board; and when cool nail the top board in its place. It is some gratification afterwards to see the bees engaged in filling them all up.

JASPER HAZEN.

Woodstock, Vt.

For the American Bee Journal.

Machine-Extracted Honey.

Since the introduction of the honey pump, bee-keeping has become quite a source of income to the intelligent bee-keeper, and machine-extracted honey bids fair to end the demand for comb honey. The public are very easily convinced of the superiority of the machine-extracted honey, however persistently the people in general stick to old customs. The most these Thomases need in order to be convinced, is to be shown the mode of extracting.

The production of machine-extracted honey is of so much more profit to the bee-keeper than the production of comb honey, that it is worth while to take the trouble to convince the ignorant that the former is the best and purest honey of the two. Every respectable bee-keeper soon gets a good patronage among his neighbors, but the quantities of honey we produce are so large that it requires a little extra exertion to dispose of them. Our *best* honey should be put in glass jars, in small quantities, and every store in the neighborhood should be supplied with "pure machine extracted honey." It should be put up about like canned fruit, in boxes and jars—properly marked with the name of the producer. I adopted some years ago, the square jars holding 1 and 2 lbs. honey, and find them to work admirably. I put a dozen jars in a box, and find a ready sale at the following prices:

1 gross	(12 boxes)	1 ℔	jars honey@	$42.00
1 "		2 ℔	" "	82.00
1 doz.	(1 box)	1 ℔	" "	4.00
1 "		2 ℔	" "	7.50
1 jar	1 ℔ honey			.40
1 "	2 ℔ "			.75
1 "	3 ℔ "			1.00

For 1 ℔ jars, especially, I found a good wholesale trade, while the retail trade in my store was about alike in 1, 2, and 3 ℔ jars. I wish to add that 99 out of every 100 of my customers buy my machine-extracted honey in preference to the choicest comb honey. I have bottled and sold, since last season, more than 10,000 lbs of honey, I sold it, not with the aid of an

agent, but as customers would call for it at the store.

Having bought respectable lots from different parties, I had some experience in the different ways of putting up. This is what I wish to speak about for the benefit of all concerned. We are all apprentices yet, and may be profited by a liberal exchange of ideas.

Crystalization spoils the ready sale of honey, although we all know that pure honey will crystalize. Some kinds will do so quicker than others. Linden honey for instance has, in my experience, crystalized when white clover honey has shown no signs of it, and some white clover honey has crystalized while other white clover honey has kept perfectly clear.

I have now on a shelf a dozen or more of 3 lb jars of my own honey, which show not the least signs of crystalization, while I have bought no honey of anybody since November, or end of October but was crystalized. My own honey is very clear, of a rich golden color, and thicker than the thickest syrup. That part of my honey which formed into crystalization, did not expand in the jars but rather contracted, like lard, after having cooled off. And when brought to its fluid state again, by putting the jars in hot water it retained the same substantial thickness. Not so with any other honey I had bought. I had filled several barrels of honey in half gallon fruit jars, to prevent it from candying in the barrels. The jars had tin covers slipped over the mouths. After crystalization had taken place, I found the covers as if on icebergs, sticking one or two inches above the jars, honey running down the shelves, several jars burst in the lower tiers where the covers could not give, and more jars would have burst but for my partly emptying them in time. One and two pound jars, being corked and tinfoiled, had the corks driven out etc. Nothing of that sort happened with my own honey. What was the reason?

I had been particular to leave my honey standing for a day or two after extracting, in tin buckets made for the purpose—stone jars, when buckets did not hold out etc., when I had a good chance of having it skimmed perfectly. I think it essential to not leave a particle of wax in the honey before we put it away for safe keeping, whether in barrels or jars, as that particle of wax may form the nucleus for the crystalization of the honey. I used to heat all of my honey, but found the honey would get dark whenever the fire was too strong.

Next season I shall have a receiver made of tin to hold 500 or 600 lbs, when I shall have a better chance to let the honey stand a few days after extracting, then skim the top perfectly and draw from below the pure article. The last out of the receiver may be heated over a slow fire if necessary. I should never be satisfied with the honey running through a strainer from the pump into the barrel which was then to be corked up.

Here I would ask: Has the honey too, something like animal heat, which should evaporate before the honey is put up in tight vessels? I have heard of pure honey souring in jars or barrels, and I see it stated by prominent bee-keepers that uncapped or fresh collected honey is too thin and watery to extract, etc. Now I may say there is no thicker honey than mine, and I never had any sour. May not this hasty shutting up be the cause of all this trouble? I have never let the bees cap any honey when I could help it, have pumped every week or whenever the cells were filled. This saved time and labor to both parties, and I have not yet seen my honey excelled. During last month a customer ordered a gross of honey and asked me to exchange two boxes, which had crystalized. They would have been sold long ago, he said, if the honey had not been candied. Accordingly we opened our boxes to dissolve the honey by setting the jars in hot water, (no need to uncork them, but they have to be relabeled) before delivery. The last four boxes in one row had stood there ever since the last honey harvest, it was my own honey and not a jar had crystalized, while all the rest of the jars had crystalized perfectly, most of them with corks driven up a little, as far as the lid would admit.

To sum up the matter I would say: Honey should stand sometime after extracting—to cool off, (?) and be skimmed perfectly and freed from all other substances (running through a strainer is not sufficient) before it is put up in air-tight vessels.

Some bee-keepers have the bad practice of sticking a piece of comb honey in a jar of nice machine extracted honey. This may look nice in the eyes of the ignorant, but it does not look well in the eyes of those knowing better, and it is no more the pure honey, it contains also a piece of wax with those impurities which always will adhere to the comb. Besides it does not take a piece of comb to convince consumers that the honey is pure. Pure honey recommends itself.

Hives not only require a proper handling of the bees but also a proper handling of the product to make bee-keeping a success.

Cincinnati, O. CHAS. F. MUTH.

If bees are not allowed to possess anything analogous to reason, the regard for their queen, and the watchful care of their young, must result from some pleasurable sensations derived from them.

For the American Bee Journal.

Shall we Clip our Queen's Wings?

Gen. Adair, to whom I think we are much indebted for his "New Idea Hive," holds that the air tubes, which help to form the veins of wings, are important aids in respiration; hence, clipping the wings, clogs respiration, and renders the queen imbecile.

Again, accidental peculiarities are inheritable; should we then crop our queen's wings, at the risk of creating a race of wingless queens? First, as to the facts:—Surely, neither structure nor a false physiology, can hope to refute the well-grounded facts gleaned from experience. The real proof of the pudding is still in the eating; and who of us, that are experienced bee-keepers, have not demonstrated that wing-clipped queens are, in every way, the equals of those with "undamaged respiration." An Italian queen, with clipped wings, procured from Mr. Langstroth, and three years of age, netted me $40.00 during the season of 1873. Half of my queens had wings clipped, and they were fully the peers of the others. All these netted me over $30.00. Now, friend Adair, is not that pretty well? I believe the experience of nearly all, will refute your theory.

Now for the theory:—To be sure, there are tracheæ in all the wings, whose certain function is to convey air to arterialize or oxygenate the blood which is to nourish the wings; but after the wings are once fully formed, they need no further nourishment, unless broken down by use. The queen, after her marriage flight, has no further use for her wings in a well-kept apiary; so they need little or no nourishment, blood or air: in fact, are effete appendages, and may as well—yes better—be cut off. In both the white ants (neuropterous), and common ants (hymenopterous), the economy of the colony, and also the nature and functions of the individuals, are very similar to the same among bees; and in their case the workers bite off the queen's wings, to prevent swarming. Yet these queens are very fertile, and apparently very healthy. Can we doubt that nature would have provided for the despoliation of the queen-bee's wings, except that, in nature, swarming was a necessity, and demanded perfect organs for flight? Domestication changes affairs, and thus should change management.

No! Air and tracheæ are only needed to insure growth and nutrition of the part (the part gone), the air and tubes are no more needed. As well declaim against amputation of a limb, because it would cut off the supply of blood. I believe the two cases are strictly analogous.

But would not the deformity become a permanent inheritance? It has not, with ants; nor in higher animals has cropping the ears, branding or cutting off the tails, for untold generations, given us cause to fear any danger: and this too, with organs of far greater vitality. Because some tailless cat, in some distant clime, is *reported* to have brought forth tailless kittens, breeders have made very much of a principle, which every dog experience proves to be exceptional. Congenital deformities, to be sure, are apt to be transmitted, but the same is not true of deformities acquired after birth.

The editor of this journal, compares this practice to the obsolete practice of docking horses' tails. The cases are no ways similar, I think. This is painless, and beneficial; the other, cruel, useless, and shocking to morality and good taste.

Again, God would not have made wings for the queen, etc:—Surely, our friend, the editor, did not offer this as a serious argument. This argument would strip us of our clothing, take the shoes from our horses, and render the males of nearly all our domestic animals much less useful and tractable.

Domestication makes changes desirable; and man has been given a mind capable of suggesting improvements upon nature; else why our houses, barns, or even our improved hives?

It is strange that Dr. Packard should have added his commendation to this theory. He must have supposed that practice or experience demanded it. Yet this is not the first mistake, or hasty conclusion, from men of rare scientific acquirements. Else why did Prof. Riley give credence to the error, refuted by anatomy, and contrary to all experience, and correct observation, that bees eat into grapes, when, forsooth, they only lap up what is rapidly going to waste, through the mischief caused by the stronger jaws of wasps, or frugivorous birds?

A. J. Cook.

Agricultural College, Lansing, Mich., May 9th., 1874.

For the American Bee Journal

Extraordinary Swarming in March.

On the 11th. of Feb., the day being warm and suitable, I carried my hives out of the cave and let them have a purifying flight. The day following being cool, they were returned to the cave and left there until the 17th of March when they were carried out and placed on their summer stands. The day was suitable, being warm and calm, and in a short time the air was alive with them. Before we had finished their removal and while carrying others out, I noticed a great many bees about a certain hive, and remarked to my son, who

was assisting me, that there was an extra strong colony. We placed the last one on its bench about 2 o'clock p. m., and I must confess I felt much gratified that all the colonies were alive and in a condition to do well; for my experience the two winters before, had been attended with such a loss that I felt quite a relief when the last hive was out and each one contained a colony of living bees. (For during the winter of 1871-72 and spring following I lost 26 colonies. And in the winter of 1872–73 and spring following I lost 93, leaving 23 to start out with in poor condition. They all died with dysentery.) About 3 o'clock p. m. the supposed strong colony was found to be swarming out and the bees lighting on several hives around, rushed in but soon came out again, joined by the inmates, and such a swarming mania was a new thing to me. The air was full of bees from all the hives and it appeared as if most of those too were siezed with the same excitement and joined the big crowd.

After going through the regular course of swarming they settled in two clusters several rods apart, and each one contained enough bees to make ten or a dozen fair colonies at this season of the year. Well, here was a damper, and as I stood and looked at those two huge piles of bees, the pleasant visions of swarms in June, and honey too,—Oh,my, how quick they vanished! And this unlooked for "matter of fact" in its huge proportions hung before me, and the question was: How can I save these bees?

The sun was within an hour of setting, the wind had come in from a cool quarter, and soon the bees would be much chilled. One queen seen on the ground was used to make a colony with; then hastily passing round among the hives, the weakest were selected and an ordinary sized swarm of bees given it, until they were all disposed of. The weather becoming too cool to meddle with them, they had to be left for some time. As soon as it became warm enough, I began transferring the colonies, to clean hives, and helping the destitute as well as I could.

I find I have lost 26 out of 81, with quite a number of feeble colonies to build up. The greatest loss sustained was by the depopulation of the hives from the bees in the air at the time of joining the swarming party and leaving the numbers in the hives so small that they perished during the cold spell that followed. I have kept bees for over 35 years, and have on some occasions had colonies in the spring, destitute of stores, come off and attempt to enter another hive but all these except the first one that came off left stores and brood.

My hives are placed on benches in rows and about 8 feet apart. If this should come under the notice of Messrs. Quinby, Grimm, Gallup, or any other apiarian of extensive experience, and they perceive wherein I have erred, I shall feel much obliged if they will point it out to me.

Atlanta, Ill. L. JAMES.

An Enterprising Settler in Nebraska.

The *Lowell* (Nebraska) *Register* prints the record of an enterprising settler. Mr. M. S. Budlong settled on the edge of Franklin Co., Nebraska, bordering on Kearney Co., in March, 1872. When he arrived on his homestead, with his two sons, he had two spans of horses, but only eleven dollars in money. At the beginning of 1874 he had 100 acres of land under cultivation; an orchard containing 500 young apple trees, 100 pear trees, and 100 cherry trees, and a vineyard of 500 grape vines. Mr. Budlong is now about to plant 200 apple trees, 200 peach trees, and 500 additional grape-vines.

The homestead is in Southern Nebraska, and on the level prairie; and no man, who has the spirit of Mr. Budlong need fear to settle where there are no trees to shade his roof-tree from the sun. If he plants as Mr. Budlong has done, in five years his orchard will be coming into bearing; and, if he has made a wind brake of cottonwood, he will have ample fuel for his stoves.

Certainly, eleven dollars in cash is not adequate for the needs of the ordinary settler, though there are numerous instances in Nebraska of men starting in this way upon nothing, as it were, and in a few years working themselves into positions of comfort.—Such men are brave and enterprising; but a capital of $500, at least, is a good thing upon which to start. The larger the capital—given skill, enterprise, comage and industry, without which money is of little moment—and the greater the gain. There is abundant room and ample scope in Nebraska for men like Mr. Budlong,

For the American Bee Journal.

Rape and what to do with it, etc.

Many readers of the AMERICAN BEE JOURNAL enquire of us where they can find a market for rape near them, in case they sow some? In our pamphlet we state that the proprietors of the Fond du Lac Oil Works will establish an agent wherever a car load of rape can be bought, so you can have a market right at your door. But if that amount cannot be had, the seed may be sent to them in grain bags. Or it may be fed to stock; there can hardly be anything better for sheep, it is, of course, much richer than oil cake; therefore only a very small quantity should be

given at a time. It could be mixed with ground feed, we cannot say in what proportion as we have not tried it. It would thus make very rich and healthy food for cattle and horses.

Our thanks are due to friend Dadant for the light thrown on the grape and bee subject. Fortunately for me it lights up my side only, while it leaves Mr. Riley in the dark; it will afford him a sort of magic lantern view, where, in order to see the object, one must be in the dark.

Hope the advice given by H. W. S. will be followed by those who care to know the facts. It is certainly important to know whether bees are guilty or not. And by fruit and bee cultivators taking close observations, we shall know for a certainty, leaving no room for doubt. In some parts of the country *bee-haters* are crying aloud for laws forbidding bee keeping; asserting that they are a nuisance, and that they destroy fruit, and raise the deuce generally. And if bee-keepers do not remonstrate they will finally succeed in making such laws.

We as bee-keepers should stand by the bees and their keepers, if these charges can be proven to be false. H. O. KRUSCHKE.

To Beginners in Apiculture.

BY PROF. A. J. COOK.

In the article of last month was given the method of queen rearing. Perchance aye, very like, the beginners first effort will be fruitless. Or instead of four queens he may succeed but partially, obtaining but one, two, or three. In this case, or even if his first attempt be an entire success, he had better repeat the operation and be sure that the first year's experience has made him an adept at queen rearing. Any time that we desire queen cells, we have but to remove a queen from the colony—always from our most esteemed colony—and queen cells will be immediately built, and very soon filled. Not only beginners, but every bee-keeper should always have a good number of extra queens during the honey season. The reason for this will appear in the sequel.

TO INCREASE OUR COLONIES.

It is not in the province of these articles to show that artificial division of colonies is superior, hence preferable to natural swarming. But all experienced bee-keepers know this to be the case. Convenience, as well as the best success, demands that the beginner should practice artifical swarming. The apiarist may make two colonies from one, or what will be better for our beginner, be content with an increase of one colony at a time.

Take your rotten-wood and smoke both the old colonies very thoroughly, and also one of the nuclei, which has hatched out a queen.—The queen should have been hatched 7 or 8 days, that you may be sure that she has met a drone and been fertilized.—Place after the thorough smoking, the nucleus frames, queen, bees and all into a separate hive, then take 3 or 4 frames, bees and all, from each of the old hives, being very sure not to include the queen, as such a mistake would involve the loss of a queen and a check in the operations of the old hive, and that too at a season, when inactivity is attended with serious loss. Put these frames in the new hive with the two frames taken from the nucleus. Now fill in all three hives with empty frames.—These may be put between full frames so as to insure straight comb building, or as I prefer all at one end, so as not to separate brood, in which case the apiarist must see that the comb is built true to the frame. Now place your nucleus hive say, one foot to one side, and place your new colony so that the entrance shall be very near where that of the nucleus was. By moving a few inches each day the hive can soon be placed where desire may dictate. The old bees taken from the old hives will return, while the young ones, the bees from the nucleus, and the rapidly hatching brood will soon make a strong colony. The free use of smoke will prevent fighting which would seldom ensue without it, as the new hive through mixing of bees, together with the great number of young bees, will almost always change anger into surprise.

Now as the bees grow in strength, the colonies may grow in number by a repetition of the above process. By thus making new colonies from several, all the colonies are kept strong as they do not feel the loss of the few bees, few frames, and comparatively small amount of brood. I now have hives (May 9th) with ten frames of brood—frames one foot square. They could easily spare 3 or 4 frames. The great point in successful bee-keeping is to always keep the colony strong, as this fortifies against nearly all the ills in bee-keeping. Another point equally important already hinted at is to suffer no pause in the labor of the hive during the honey season. See to it that no hive is queenless even for a day.

As the warmth and bloom draw on see to it that your bees have plenty of room. If the queen has no room to deposit eggs from the fact that all the cells in the breeding department are full of honey, buy an extractor and extract it. If the workers need more room for storing, put on boxes or put some frames in your upper story. If both queen and workers have plenty of room and are shaded from the hot sun. I think the bees will never hang idly from the outside of the hive.

American Bee Journal

W. F. CLARKE, EDITOR.

CHICAGO, JUNE, 1874.

What is Honey?

Gen. D. L. Adair is reported to have said at the North American Bee-Keepers' Convention: "Strictly speaking, there is no distinct substance that can be called honey. The bees gather from flowers, from the different sweets known as honey dews, and from the saccharine juice of fruits and plants, substances that consist chiefly of sugar in some forms, mixed with other secretions and essential oils, and store it in the comb cells, and it is called honey. It necessarily varies widely, depending on the source from which it is derived. All honey is sugar containing vegetable substances in solution with it. Sugar in all three of its forms is, in a general sense, the sweet principle of plants, fruits and trees. Cane-sugar, fruit-sugar and what is known as grape-sugar, vary but slightly in their constituent elements, and can be chemically converted into each other. They differ only in the proportion of hydrogen and oxygen, or the element of water. Bees will gather and store up anything that sugar in any of its forms are mixed with, so as to give a decided sweet taste; and while it may be true that in the process of gathering and transferring to the hive, no chemical change takes place, they mechanically change its taste by its absorbing the scent peculiar to the hive, and often change its consistency by a process of evaporations of any excess of water."

Gen. Adair is a very scientific and successful apiarian, and we can usually endorse his views to the full. But he is occasionally hyper-philosophical, and pushes science too far. It may be quite true that sugar is the basis of all sweets, honey included, but it is convenient, to say the least to have distinctive terms for the various saccharine substances, though the one luscious principle pervades them all. Only confusion of ideas can come to the popular mind, by forcing too much philosophical accuracy into common modes of speech. Thus, we call one form of sweet, molasses; another, syrup; and still a third, honey. What is the good of arguing that there is no distinct substance that can be called molasses? It is the popular and commercial name of a liquid sweet obtained from the West Indies, having a peculiar flavor, and capable of being distilled into rum. Yet we all know that its main constituent is sugar, or the saccharine principle. So of honey. It is a liquid sweet, gathered from a thousand flowers, acted on in some peculiar way by the honey-gatherers, and possessing a flavor and properties peculiar to itself. But mankind were pretty well aware, before Gen. Adair delivered his philosophical disquisition, that honey was mainly composed of sugar.

There is a question as yet unsettled among scientific bee-keepers, to which Gen. Adair seems to give the go-by altogether. He says, "It may be true that in the process of gathering and transferring to the hive, no chemical change takes place" in the sugary stores collected by the bees. On the other hand, it may be true, as many suppose, that a chemical change *does* take place, and that the formic acid in the body of the bee so acts on the gathered sweet as to transform it essentially. There may be more than an influence mechanically exerted by the odor of the hive. Each hive is generally considered to have its peculiar scent, and hence in joining swarms or introducing new queens, it is good policy to introduce smoke or some perfume to confound the bees for a time, until the new colonists or newly-introduced queen come to smell like the rest. But honey, if gathered from the same flower, is all alike, no matter in what hive it is stored. At any rate, human senses cannot detect any difference. It is therefore quite as probable that the change is chemical, as that it is merely mechanical. On the whole, we are inclined to think that the great majority of people will persist in believing that there is such a thing as honey. If they should come to a different opinion, and conclude that it is mere sugar, "only that and nothing more," we fear it will spoil bee-keeping, and that it will no longer be possible

to obtain twice or three times as much as for common sugar. "Where ignorance is bliss, 'tis folly to be wise."

Successful Wintering.

To the Editor of AMERICAN BEE JOURNAL.

Sir :—I notice an item in your valuable paper, as follows :—"He may be regarded as a master in bee culture, who knows how to winter his stock in a healthy condition, with the least loss of bees, the smallest consumption of stores, and with the combs unsoiled."

Well, then, I am a master in bee culture, for I have succeeded in all of the above particulars, combs nice and bright, bees all alive, and my strongest stocks have not consumed more than 15 lbs. apiece. I will tell you how I proceed. I study the "Bee-Keeper's Guide," use the "Thomas" hive, have built a bee-house according to the "Guide," only I make the walls 18 inches thick, filled with oat straw well packed in, have two doors, one to open inside and the other out, and put newspapers between these two doors. Through the winter I open the bottom ventilator when the weather is warm, and close it again when the weather grows cold.

I prepare my hives for winter by removing the honey board, and place on a frame of inch stuff covered with wire cloth, then fill the cap with wheat straw, by turning it over, and filling it in nicely, so that it will not fall out when placed on the hive. I leave the bottom ventilator of the hive open. My bees are always healthy on natural stores, and I think it too bad to extract all their honey and winter them on sugar syrup. Yesterday my bees were working lively on meal prepared of two parts of buckwheat flour, one of wheat flour, with a little sorts and bran mixed in.—I am, etc.,

ILA MICHENER.

Low Banks, April 14th, 1874.

[We congratulate our correspondent on his attainment of the degree of M. B. C.—"Master in Bee Culture." His plan of wintering is undoubtedly a good one, though we should fear, without a large amount of ventilation, the bees would be too warm in an ice-proof house, with the hive cover stuffed full of chaff. Growing experience, however, inclines us to the opinion that bees are oftener hurt by getting chilled than by being kept over-warm. To judge by the small amount of honey consumed, we should be inclined to think Mr. Michener has hit the happy mean between the two extremes of heat and cold. We should like to know if his house is regulated by the use of a thermometer, and if so, at what degree of temperature he keeps it. We should also like to know if the past winter is the only one during which his bees have been treated in the manner described, or if he has had several years' experience of the method. We are acquainted with numerous bee-keepers, whose experience has been very variable in wintering their bees in a similar way. We believe that this was the case with Mr. Thomas himself, whose plan, as described in the "Guide," Mr. Michener has substantially followed. We can testify that it has been ours. "One swallow does not make a summer," nor does one season's success in wintering a lot of bees constitute an apiarian a "Master in bee culture." What is wanted is a definite method, which has only to be followed to secure uniform and certain success. So far as we know, no such method has yet been demonstrated.]

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents each for, to complete them.

We have several single volumes (complete) which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.50 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

Voices from among the Hives.

ARCHIBALD SMITH, Roswell, Ga., writes:—"The season here, although *mild*, has been so *wet* since January, that bees have hardly got a living; notwithstanding the fruit bloom was very abundant."

JOHN DAWSON, Pontiac, Mich., writes:—"This has been a poor spring for bees. They wintered well enough till March, but there have been many days that were just warm enough for bees to fly and get lost. I have known bees to gather pollen from the gray willows, on the 7th and 8th of March; but it was April 20th, this year, before any were taken in, and we have had frosty nights and cold, bleak days ever since. The buds on fruit trees have hardly begun to swell yet."

W. A. B., Bridgeport, Ct., writes:—"The best thing I have ever tried for ee-stings, is to first pull out the sting, and then take a small tube, the end of a hollow key for instance, and firmly press round the sting for a short time. The reasons for its action, I think, are two: first, it presses out the poison; second, it bruises the flesh so as to partly stop its spreading. It must be done very quick to do any good. I have tried it, and a good many other remedies, and this has done the best."

H. W. WIXOM, Mendota, Ills., writes:—"The past winter has been easy on bees, but the spring has been very rough. I have lost nearly one-third of mine since the middle of March. There has been so much high and cold wind it seemed to prevent them from breeding, and the old bees are thinning out very fast. Those that are left will be very weak. The case is about the same generally throughout this section of country. It is now raining and cool, and it is hard to tell what the final result will be."

HENRY CLAUSSEN, Mishicott, Wis., writes:—"My bees have wintered well. I put them into the cellar Nov. 5, seventy-one in number, and carried forty-two of them out April 2, and the rest April 8. I lost only one hive, because they had nothing more to eat. Three colonies lost their queens. One was an old queen, but the other two were raised last summer. My bees are all in good condition, although the weather has been cold almost all the time since I took them out. On April 20 we had a snow storm; the snow was lying about a foot deep, and a good deal of it is lying on the ground yet (April 15). Some of my colonies have brood in four, and some in five frames. I hope for a good season."

E. A. SHELDON, Independence, Iowa, writes:—"My nineteen stands of bees that I put in cellar on Nov. 18, were taken out April 17, all alive and in splendid condition, save two that died for want of bees enough to keep up natural heat. They had plenty of natural stores. The seventeen that are left are working at a rapid rate, bringing in both honey and pollen, although no fruit trees are in blossom yet. They have gathered from the willow, mostly, of which we have an abundance here. I wintered in a dry cellar, with caps off, board raised, and front entrance open full size. The thermometer ranged from 32 degs. to 40 degs., generally from 34 degs. to 38 degs. Occasionally I raised it to 50 degs. by artificial heat. They were quiet all winter, and had no disease or mouldy combs, are now about one-half full of brood. I use the Gallup frame hive. I have used other sizes, but like this best."

WM. MORRIS, Sidney, Iowa, writes:—"The past winter has been a long one with us, but rather mild, and bees seem to have consumed more honey than usual. The spring is very backward, and now (April 20th) the ground is covered with snow. We have had two days since the elm came out in bloom, that the bees gathered pollen. With that exception, they have been unable to get any forage, except flowers fed them. I am trying to keep bees, and hitherto have had reasonable success, up to within the last two weeks. Since that time, the conceit has gone from me, I went into winter quarters, with twenty-seven colonies. They were in the Champion hive, part of them in the size containing eight frames, and part ten. In the fall I removed to the cellar twelve colonies, part in the large, and part in the small hives. In February, those in the cellar were all in good condition, but those on their summer stands were more or less affected with the dysentery. On examination I found every small hive affected, but no signs of dysentery in a single instance among the large ones. A few warm days seemed to set all right, and I was pleased at having come through the winter without losing a colony, but my rejoicing was of short duration. About two weeks ago the weather was pleasant, and the bees flying, when to my surprise four colonies left their hives. We succeeded in settling one, but the other three went "where the woodbine twineth." I examined the deserted hives, and found all nice and clean, and plenty of honey-brood and eggs. It is a mystery to me what caused it. At first I feared that it was caused by having previously examined them to see if all was right, but my neighbors suffered loss in the same manner. They had a large colony in a hive, which came out and settled on a tree. They knocked the hive to pieces and transferred the comb with what honey they could save, to a movable comb hive, and then hived the bees in it. They went to work immediately, as if nothing had happened. The remaining honey in the hive weighed 40 lbs. So neither disturbance nor want of honey could be the real cause. Now what I desire to know is: Are large hives less liable to be affected with dysentery, than small ones? And what is the cause of bees leaving their hives, stores and brood, as ours have done? Can some of your numerous correspondents give the desired information?"

D. D. PALMER, Eliza, Ill., writes:—Wishing to procure a basket-full of new chips, I left New Boston at 4 p. m. April 16, in a covered buggy drawn by the iron horse and reached Keokuk at 9: 15 p. m., crossed the Mississippi on the iron bridge, and on awaking next morning I found myself at Hamilton, Ill., and within about two miles (bee-line) of Ch. Dadant and Son. According to directions I followed up the creek, occasionally stopping to view nature's works, which in this place is grand and picturesque, till I came to a town composed of bee-hives of various colors and arranged in rows under the shade of a natural grove. At the upper end of Main Street and near to the above mentioned town is the residence of the proprietor; to which I hastened my steps and found myself in time for breakfast. Bees and bee-keepers was the topic of conversation during which I was shown photographs of a few apiaries and of many eminent bee men of Europe and America, besides an endless number of circulars of bees and hives. Every letter and circular received finds its appropriate place for preservation.

I have formerly thought, when reading an

article translated from some foreign bee journal that, we should be very thankful to Dadant and others for that tedious task; but finding that C. P. Dadant can take a French or Italian journal and translate in English as fast as we usually read, I have concluded to give him credit for his ability instead of a tedious task. C. P. Dadant announces that it is warm enough to open hives; we arm ourselves with bee hats, made by attaching bobonette to a straw hat and at the lower end is a piece of elastic which fits around the neck, a shallow box with a handle in the middle and divided into suitable apartments in which is carried the different articles needed in the apiary.

A number of hives are to be fixed for shipping and now for the *modus operandi*. Each hive is examined to see if pure and if strong enough to fill the order. To secure the frames an ingenious bent wire is used at the bottom, it being one of Ch. Dadant's inventions, next the frames are properly spaced and nailed with brads, then the honey—board is nailed and cover etc. I saw several queens and they were very uniform in size and color. They are well located for shipping facilities, but the honey resources are not plenty when compared with Sweet Home. In all things they have system and order. The hives are all numbered behind and to each is nailed a tin black-board holder, the black-board being about 3x4 inches, having upon the corner of one side the number of the hive and upon the opposite side a liquid-slating on which is written with pencil the condition of the hive. age of queen etc., the writing is turned inward to prevent being erased, when empty the black side is turned outward. The numbered side can be inverted or changed in various ways to mean as many different conditions. I said that his hives were numbered, the nuclei for raising queens were numbered by letters of the alphabet.

They use the wax comb-guide described in Gleanings page 12, vol. 2. Also the divisible frame, *i. e.* dividing a full sized frame into equal halves for the nuclei—see Ch. Dadant's description on page 29 of Gleanings vol. 2.

They believe bees should have salt, and for that purpose they have a stand in the apiary on which they invert a small-mouthed jar, having previously filled it with strong brine and covered with muslin which is tied around the neck. Is salt necessary or beneficial? Of what use do bees make of it? Why do they prefer water that is salty?

C. P. Dadant used a slate pencil for his black-board writing, it suggested the idea to me that a slate would be better than a board, I accordingly procured me eight school slates for 70 cents, which I cut in 64 pieces about 2½x3 inches each of which is large enough. On one side I have put the number of hive and on the opposite I put the record and condition of the hive. While talking with W. T. Kirk of Muscatine, Iowa, about the above he said: "Why not drill a hole in the slates and hang on a nail"? If slates could be procured without frames they would not cost, labor and all, over one cent each, which is less than the black-board, and so far I think much better to write on. With a rule and slate pencil I laid off the slate and then I sharpened one end of a file with which I cut it on opposite sides and then broke as glaziers do. And with a brace and the above file I drilled the holes, slate is soft and easily cut.

I forgot to mention in its place that Dadant uses the "quilt" or rather a very heavy muslin, they dip the edges in bees-wax to prevent the bees cutting, then the original honey-board is placed on top to hold it down.

J. M. Simmons, M. D., Lauderdale, Miss., writes:—"I bought 4 box hives, and one of King's $10 close-top hives and transferred my bees and combs to them.

King has the idea in some respects if he would cut the frames to ⅞, leave off his supers and make the hives longer and deeper. Last fall having read so much by Novice about wintering I reduced my 10 stocks to 6, but I think the 10 would have wintered better and now I would have 10 stocks instead of 6. Last fall I sent to R. M. Argo for two Italian queens and he sent me some fine-looking ones, but no directions about making queen cages, so I lost one in introducing them. After my loss I introduced one of the old queens and they must have killed her, as I found the hive queenless when I examined it in January. I commenced this year with six hives but having to unite the queenless one and letting one starve I reduced my stock to four. In wintering my stocks last fall I did not kill any of the queens, and the first warm spell this year, two swarms came out of two of the united hives and went back. I examined the hives and found a dead queen in each and many bees dead in the hives and outside. Well, I supposed just then that I was minus two queens and many bees from disease, but I found upon examining the frames two very fine large queens and they are to-day the finest queens I have, and have the largest stocks.

These swarms remained in those hives all the winter and as soon as the weather moderated they took a notion to separate but finding it rather too cold outside, they returned and were killed. In March I was examining one of my hives and found them killing their queen, superseding her, for they had started a queen cell. I cut it out and gave them a frame of eggs and brood from my Italian stock and now have two fine Italian queens and two stocks instead of one, but I am afraid they met common drones instead of Italian as I had some of both. I have tried to keep the common drones out of my hives by killing and uncapping. I want to Italianize all stocks this year.

I find there are two kinds of native Southern bees in this section, one a little black bee, cross and spiteful, stinging every thing that comes near, the other a large yellow bee as large as the Italian and very much like them in their disposition and habits, but they have none of the Italian marks, they must be a cross of the Italian, for my queens are as large or larger than the Italians, but much darker. I never use smoke unless I want to unite them, and not always then. I have dispensed with supers and converted my two-story hives into single story hives 34 in. long holding 21 or 22 frames 12x9 in. inside measure.

My bees have quit sugar since they got natural supplies, unless it is cool or raining, then they work on it. I don't think handling bees often injures them, if the weather is pleasant, for mine don't stop working unless I disturb them a good deal, and I think sometimes that opening the hives is a benefit and starts them out when if left alone they would do nothing.

I am trying a small patch of Alsike clover to see if it will do for our hot climate. Buckwheat does well here, tried it here last year and bees worked on it freely. This has been a bad season for bees but they have commenced gathering honey. The great trouble with us is insects, and want of frame hives, most all use the box and gum hives and call the queen the king bee, and say it is wrong to sell bees but you can steal them and all is 'O. K.'"

American Bee Journal

THOMAS G. NEWMAN, MANAGER.

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Honey Markets.

CHICAGO.—Choice white comb honey, 28 @30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@ 18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO. — Quotations from Sterns and Smith, 423 Front st.

Choice mountain honey, in comb, 22½@25c; common, 17@20c; strained, 10@12c, in 5 gallon cans. Valley honey, in comb, 12@17c; strained, 8@10c.

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AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CHICAGO, JULY, 1874. No. 7.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Wintering, etc.

I felt very much encouraged as the winter months passed away, to find all my bees alive, as well those left in my charge for the winter by the firm of Nunn Bros., of Oberlin, amounting in all to 133 stocks—30 of my own and 103 being one of Nunn Bros.' apiaries. But the spring months brought very different results. On Feb. 5th all were alive, and apparently in good condition. A few lacked stores, and had to be fed accordingly. On the 7th of Feb. I found 8 of my own dead, and 4 or 5 of Nunn Bros.' and every warm day in which the bees could fly showed that another one or more had run its allotted time—but the worst had not yet come. It was certainly hard to see 50 or 60 stocks die, and *apparently* no cause, but to see the remaining ones dwindle down to small, weak stocks and have to unite them and notice them in a few days still diminishing, and that in April, and uniting as many as 3 or 4 together, and in May still be weak I felt *blue* as I had never before. I united and united, until I reduced my own to 3 stocks and Nunn Bros.' to 26, leading them with the choicest queens. Then some of them seemed very undecided whether life was worth the living or not, but others prospered remarkably well.

Before I ask the cause of such mortality, I must give the circumstances somewhat in detail. Hives, Standard Langstroth; some well packed with straw; nearly all had blankets; about 20 with honey-boards, all of which died; straw packed in upper stories. Last time of extracting, in September. The week following each hive had an average of 35lbs. of honey, and 8 or 10 frames of brood, (some even 16) and many of them young queens. There were very few older than 2 years—that is queens of the fall of 1871, mostly the production of 1872.

The strangest part is the manner in which the bees acted. In the month of May I opened a weak stock and discovered that the bees were not clustered, but spread all over the hive; brood scattered around in all stages; bees paying little attention to it, and the queen trying to be where most of the bees were. On opening one hive, the queen appeared to be disgusted with the ungallantry of her attendants, and flew out without a follower. They all left honey in abundance with the exception of about 6, which left little or none.

If Adair's theory is correct, that a queen can lay all her eggs in a season, then it is possible that the queens being unable to keep up the colony, was the cause, as some of them had kept from 15 to 20 frames full of brood all the summer. But on the other hand there has been a number of stocks die around here, or rather in a certain direction, and I am inclined to think that Prof. J. P. Kirtland is correct in attributing it to an epidemic; for when travelling 18 or 20 miles from here, I found a section of country where all the bees had died, whether in movable frame or box hives. On either side of it, very rarely one had died.

Perhaps some one will account for it a little more satisfactorily than I can. I would like to know the opinion of others about it.

I spoke of Nunn Bros. leaving their bees in my charge for the winter. Their object was to take a trip to Europe; and while in Italy they purchased 30 queens, and arrived at their destination (Oberlin, O.) with 27 living, which I think is rather remarkable

I see an Advertisement in every Journal of "Winder's New Extractor," working from the bottom, PATENTED. If your readers will refer to the April or May No. of the AMERICAN BEE JOURNAL for 1873, they will find an article headed "A new contributor." They will see that I used one then, (before Mr. Winder's was patented) and I have had it for 3 years. I do not claim to be the inventer. It was suggested to me by Nunn Bros., and I carried out their principle, and as they did not wish to

patent it, I spoke of it in the JOURNAL thinking others might value it as well as myself.

I would like to know wherein Mr. Winder claims his patent. AVIS.

For the American Bee Journal.

Artificial Swarming.

I take from my prosperous colonies, two frames of brood with adhering bees, until I have enough to fill a hive. Watch carefully, about the time the first queen hatches, and cage her, before she destroys the other queens. This week, I caught the first queen that hatched, in one of my new colonies, put her in a cage, leaving her until the next day in the hive where she hatched. I then made a new colony, and placed a frame of brood and adhering bees, with a queen ready to hatch from this hive; I then released my queen in the hive where she hatched.

In a few hours queen No. 2. was out and was well received. I intended to catch her before she destroyed her rivals, but was too late. I obtained four queens in this way, from one new colony. I have never succeeded in cutting out a queen cell and giving it to a queenless one.

I wish the fathers in apiculture would stop grinding their axes for a little while and give us their *modus operandi*.

Peoria, Ill. MRS. L. HARRISON.

For the American Bee Journal.

How to make Artificial Swarms.

Those who have movable comb frame hives will find it to their interest to artificially swarm their bees. There are many ways by which this can be done, and of all the different modes, I have found the following to be the most satisfactory in my experience:

I will first go to stock No. 1 and take away one-half of the combs, taking about one-half of the brood and one-half of the honey, putting in their place empty frames. Do not put two empty frames together, but between frames of comb, so that the bees will build the new comb straight. I brush the bees all off of those frames of comb etc., and take a new hive and place them in it, with alternate empty frames as above stated, for same reason. Now I go to stock No. 2, between eleven and twelve o'clock, and remove to another part of the apiary, always selecting a strong stock, and put the new-made hive in its place, and you will be surprised at the number of work bees that will go in and take possession of this new hive; and finding they have no queen, will soon commence making queen cells. But I generally, nine or ten months prior to this time, have set my best and choicest colony to raising queen cells; so that I now save ten days by going to that colony and cutting out a queen cell and inserting it in this new made stock, which I do from four to six hours after I let the workers in as above stated. In this way the apiarian can keep his stocks strong all the time and increase them remarkably fast; and should any stock from any cause become weak or need strengthening, you can give it a comb of brood and all the bees that cling to the comb, from a strong colony; but you must be careful not to take the queen with them; better shake the bees from the comb unless you know that the queen is not on it.

J. M. DORR.

For the American Bee Journal.

The Bees and Grapes.

One word about bees eating grapes. The past three Falls have been dry with us. I have two fine vines on the south side of my house within 20 feet of my bees. Not a grape did they touch. In my garden not 40 feet my bees, I have several vines. Two years ago I caught the yellow birds eating the grapes. They would alight on a stem and pick a hole in every grape; then the bees took the balance. I put up some rags and scared the birds away. I had no more trouble with the bees. Those on my house they did not touch: I had 171 stands of bees. I have watched them closely, and I don't believe a bee ever molested a grape until they had been opened by birds or something else. A man is to be pitied that would recommend poison for bees, or would kill the little songsters for a few grapes that they kept the worms from them all summer. I never write for publications as it would tax the editor too much to put it in shape. F. SEARLES.

Hadley, Ill.

Not a bit of it. Give us your best thoughts and we will always be glad to put them in shape. Every practical bee-keeper is invited to write. We want *variety*, and our bee-men are invited to send us everything of interest.—EDITOR.

For the American Bee Journal.

Sundry Notes.

Spring has been so lagging that our pets have not done as well, up to this time, as is usual; and what was quite remarkable the cherry, apple, pear, horse-chestnut, sugar maple, lilac, and currant were in bloom at the same time, and of course stimulated breeding greatly, although a fortnight later than last year.

I attempted to raise a few queens as early as the first week of May, but the bees would not respond.

There is no pleasure in the apiary, next to a healthy condition, equal to that of queen raising; and no disappointment greater than when you have put your trust in man, and have sent for tested queens at a price and find them wanting.

I passed a good part of last summer in such disappointments, and as it is three weeks at least before one can detect the imperfections, it is a great loss of time in any apiary; and it might be a serious loss to one who depended upon queen raising as a source of income. Late in the season I sent for a low-priced queen, and by return of mail received a beauty, which proved to be pure and prolific, and from her I have raised my early queens. Such has been my experience with high and low-priced queens.

For my part I do care whether the color of the queens, young or old, are of the rich chestnut, or the lighter and as some think more beautiful golden, but I do not want too much of the "horrid black," as this makes me distrust the purity of the ancestry.

If the queen cell is started from the egg, or from the worm only a day old, and is attended by enough bees to keep it liberally supplied with food and sufficiently warm, I have found no difference between such a raised queen and one from a crowded colony at swarming time.

Have you ever known queenless bees to take an egg from a laying queen that was caged and put over the frames? I suspected it, this spring, from the fact that the first two or three queens that hatched from a breeding hive, in which I had placed a caged hybrid queen for safe keeping, were of a beautiful golden color, while the rest were nearly as black as common bees. To test this I twice made a colony of bees in empty combs, or combs to which no queen had had access, for at least a fortnight; and in both instances queen cells were formed near the top of the combs, and eggs deposited in them. In one of them I let the bees raise a queen which proved to be a hybrid. May not this be a source of error, and a really good queen condemned?

In two instances last summer, I found two laying queens at the same time in the same hive. One of these old queens rather liked the colleague idea for I put her into another colony and after filling the hive with brood, repeated this partnership operation. In trying this again I lost her, by introducing. E. P. ABBE.

New Bedford, Mass.

The odor exhaled from the hives, and the size of the bees on their return from foraging excursions, are always sure indications whether the flowers contain honey.

For The American Bee Journal.

The Bee Malady.

The all-absorbing topic of the unusual mortality among bees during the past few years, seems to be neither exhausted nor satisfactorily explained. My experience in handling bees commenced more than 40 years ago, and I have been an interested bee-keeper the greater part of my life. I have wintered them and closely observed their habits and conditions in the States of New York, Pennsylvania, Indiana, and Northern Minnesota, where we had four months of steady cold, every winter, and for the last four years in this place, near Cincinnati, O.

I have read all of interest or importance that has been published on the subject in this country; besides considerable from Germany. I have, during the last five years, visited many apiaries to try to ascertain the cause of loss or failure, where there had been such. The result of all this research has been to convince me most fully and firmly that I have obtained enough of the experience of others, combined with my own, to enable me to winter bees in any climate between the southern line of Ohio and Lake Superior region with as little loss as horses, cattle, mules, poultry, or any other farm stock. I am prepared to give facts and figures which will demonstrate the correctness of my views and render them acceptable. While nearly all the prominent bee-keepers of the country have given their views upon the subject of the recent great mortality of bees, no one has, seemingly, solved the problem, even to his own satisfaction; but nearly all have made some point or points in the right direction.

Mr. James Bolin of West Lodi, O., says, in the April No. of the AMERICAN BEE JOURNAL, p. 75: "I believe it was caused mainly by cold and disease engendered by the same. That there was dysentery, I freely admit, for I saw the most convincing proofs of that among some of my neighbor's bee that died; but in every case, it was where the bees were wintered on their summer stand or, placed in cold depositories—no better, if as good as the summer stand."

Then he goes on to state a number of interesting cases which would strongly indicate the correctness of his conclusion, and the same has been so often expreseed by Quinby, and many others, and demonstrated by stated facts which cannot reasonably be doubted, we may as well mark down right here one point gained.

Now we will try to demonstrate as clearly that no degree, or continuation of cold experienced in any portion of the United States is sufficient to cause this mortality

among the bees when all other conditions are right.

In the winter of '66 and '67, the first winter that the disease appeared in epidemic form, I was living 200 miles north of Hosmers' place in Minnesota, where the bees are usually confined to the hive for months at a time by the cold, and during some portion of this time the mercury was frozen at 42 below zero, and, as Major Jack Downing said, "it would have been a good deal colder if the thermomikin had been long enough." Here it was common for the bees to remain on their summer stands 2 or 3 feet above the ground, in the open air, with no protection whatever except what a single inch board afforded. The hives were mostly the box, of the *tall* persuasion. Some of them were made with a chamber above for surplus. These had a cloth laid over the holes above and filled in with fine hay. Others were made with a partition through the centre and one apartment used for surplus. This apartment was left empty and the passage holes open at the top, middle, and bottom. All had fly-holes open half way from top to bottom. It was a very rare thing to hear of any loss among bees there. An old bee-keeper who had been there much longer than I had, said to me "our bees are never injured by the cold if they are properly ventilated." But, said he, "you must never depend upon lower ventilation for the moisture will condense and run down, freeze and stop it up, and then the bees are gone."

We never fed anything but honey up there. I heard of no extensive loss there, except in one instance. One man wintered 60 swarms in a depository made for the purpose, and lost 40, mostly after setting them out in April.

Is it natural stores that causes disease among the bees? Friend Hill, who took the premium for the best conducted apiary at the last Cincinnati Exposition, keeps from 80 to 100 swarms which he winters on their own stores, and has had no sign of disease among them during the last four years. His bees winter on their summer stands, and he uses a blanket and dry leaves over them in the cap. Hives shallow, Langstroth.

Friend Muth winters on top of his store in a bleak situation, same hive, blanket and straw mat laid over the frames, a strip of board an inch thick laid accross each end of the mat leaving an inch space between the mat and the cover, for the circulation of air, to keep things dry. The situation is in the business portion of the city. He has near 40 swarms I believe. All wintered on their own stores, also without trace of disease for four years past. He wintered a swarm two years ago that contained less than a pint of bees, outside, in a full-sized Langstroth hive, without division board—also natural stores.

Friend Gano,— a wholesale hardware merchant in the city, keeps about twenty swarms for pleasure. Has had them for many years, is very observing and well-posted in their habits and needs. He is situated in the suburbs, 2½ miles from me; winters out, on natural stores, and no protection except abundant ventilation, in this wise: fly-holes open below, surplus boxes removed, leaving the passage ways all open through the honey board into the surplus chamber, and the caps so open as to give the occupants below abundant opportunity to see the stars. He has had no disease among his bees. A portion of his hives are tall and a portion, the shallow Langstroth. In cold winters he has had quite a number of swarms starve to death in the shallow form of hive, with ample supplies all round them, but none above the cluster. During the long cold spell a year ago last winter, he removed the honey board from one of these shallow hives and laid several pieces of honey in the comb on the frames and set up a couple of thin boards to partially cover them inside of the cap; and they came through the winter in that condition and made one of the most prosperous stocks he had that season.

Last season I kept the combs in the brood-nest of all my hives clear of honey with the extractor, until the last week in June, and the consequence was, the hives were crowded with bees and the combs full of brood. On the 1st of July honey gathering ceased almost entirely. After this no brood was reared of any amount except what the combs contained at the time, and when winter set in they were more reduced in numbers than I ever had them before in the fall, and were all old bees. In October they got a little honey from the aster. In November I gave them a thorough examination, and estimated the amount of supplies by taking out and weighing a part of the combs and estimating the others. The heaviest stock was 10 lbs. Hives were numbered and the amount in each noted. I then fed them syrup.

April 10th the 34 stocks were in fine condition. Two lost their queens, one queen was a drone layer, not pure, and I killed her. And a few days since I found a queen in a knot of bees, and made a mistake and gave her to a wrong stock and the queenless stock was robbed during my absence. My bees were all in the Langstroth hive, on summer stands with straw mat and quilt or blanket over the frames; the cap on, with the cover raised ¼ inch all round by tacking on bits of thick leather for the cover to rest on. M. NEVINS.

Ohio.

Michigan Bee-Keepers' Association.

SPRING SESSION.

KALAMAZOO, Mich., May 6, 1874.

Pursuant to a call for special session of this association, a goodly number of bee-keepers assembled at the Corporation Hall, in this city, to-day. Convention called to order at two o'clock P. M. In the absence of the secretary—Frank Benton—H. A. Burch was elected secretary *pro tem.* After the usual reading of minutes of previous meeting and the transaction of business relative to the financial affairs of the Association, the programme for the meeting was taken up. Papers were presented and read as follows :

Standards of Excellence in Bee-Culture, by Herbert A. Burch ; in which the writer took occasion to demonstrate the necessity, and urge the adoption of "standards of excellence" by which very efficient aid might be rendered the apicultural fraternity.

Transferring, and Surplus Honey, by C. I. Balch ; delineating a simple and safe plan for beginners in apiculture.

Artificial Swarming, by T. F. Bingham ; a novel method, having much to recommend it.

Low Hives, by Julius Tomlinson ; in which the writer portrayed the advantages of shallow frames.

Wintering, by Prof. A. J. Cook ; setting forth in brief and concise form, the essentials of success in wintering bees.

The discussion of the topics embraced in the foregoing essays, though somewhat desultory, possessed much interest, being instructive withal ; a brief epitome of which, we give as follows.

T. F. Bingham.—Can we rely upon obtaining drones from young queens ?

C. I. Balch.—Yes, in abundance.

A. C. Balch.— I have no difficulty in inducing young queens to fill all the drone comb I give them. Am troubled with superabundance, rather than paucity of numbers.

Henry King.—Is it safe to open hives in cold weather ?

T. F. Bingham.—Yes at any time when the bees will not freeze. Though the books caution against chilling brood, actual experience has demonstrated that this danger is wholly imaginary. The more hives are opened, the better for the bees.

H. King.— Can we not ascertain the presence or absence of the queens, without the trouble of closely examining each hive, separately ?

T. F. Bingham.—There is no more necessity of opening hives to ascertain queenlessness, than there is of employing a microscope for that purpose. Place your ear close to the hive and tap it sufficiently hard to wake the bees ; if the response is energetic and ceases almost instantaneously, they have a queen ; but if the response is languid and dies out slowly, they are queenless. I have found this rule so invariabaly correct, that I never open hives to ascertain queenlessness, even if examining hundreds, and never make mistakes.

Julius Tomlinson.—I have fully tested Mr. Bingham's plan, and have found it simple and perfectly reliable.

Mr. Evarts.—Are there outside indications of a queen's presence in the hive ?

T. F. Bingham.— If immature young bees are seen in front of a hive, it is satisfactory evidence of the presence of a queen. Queens, like some persons, are erratic in their movements, eluding the most careful search ; and to ascertain to a certainty the presence of "her majesty" without examining the combs, is a great saving of time in managing a large apiary.

Mr. Evarts.—Will queenless stocks gather pollen ?

Pres. A. C. Balch.—Not to any extent.

T. F. Bingham.—They will in the fall.

C. I. Balch.—Yes, if they have drone layers.

James Heddon.—Queenless colonies are easily distinguished by the diminutive pellets of pollen that the bees gather in spring.

Dr. Southard.—Has any one experienced difficulty in regard to queens dying the present spring ?

T. F. Bingham.—I have lost a great many, and had it not been for reserve queens which I wintered, should not have had a swarm left to-day. Have lost 160 stocks as it is. Two years ago, when I lost heavily, the queens died from overwork ; but the present spring, there has been but very little brood to be found even in the strongest colonies.

Pres. Balch.—Will Mr. Bingham tell us the cause of his loss in wintering ?

T. F. Bingham.—Special interposition of Divine Providence through the hand of man.

C. I. Balch related instances of queens deserting their hives. One queen that persistently refused to stay at home, deported herself as "becometh" a queen, when given to a queenless colony.

Albert Caniff.—Why this loss of queens ? My own theory is that the old bees die and the hive becomes depopulated ; they swarm out.

T. F. Bingham.—My queens died in their hives. I experience little or no difficulty in wintering bees ; but how to "spring" them ; that's the question.

Pres. Balch.— My bees have become very much reduced in numbers, by the bees getting lost while "out a foraging," on chilly spring days.

James Heddon.—I can only account for the loss of bees by desertion, on the ground that they become dissatisfied and seek to better their fortunes, the same as people do by "going West."

J. P. Everard agreed with Pres. Balch relative to the cause of the weak condition of bees the present spring.

A. Caniff.—Why will one swarm with only a pint of bees stick to their home, and prosper, while another with two quarts swarm out and die?

James Heddon.—Some bees, like human beings, can stand more grief than others.

C. I. Balch.—When my bees were first placed on their summer stands they were in good condition, though having but little brood. A cold, stormy spell of weather soon followed, which materially injured them. Returned them to the cellar soon after, and had they been left out two weeks longer all would have been ruined. When replaced on summer stands in April, a dozen stocks did not have as much brood as one should have had, when first taken out in the previous February.

After some further discussion of the why's and wherefore's of losses sustained in wintering, the subject of hives was taken up and discussed at considerable length. From the brief synopsis given below, it will be seen that a wide diversity of views were held and expressed on this "knotty question" of what is *best* in a bee-hive.

J. R. Everard favored the size and shape of the "New Idea" frame. The advantages which will accrue from this style, will, in my opinion, render it the coming frame of the future.

James Heddon.—I cannot agree with the ideas advanced by Prof. Cook, relative to the square frame. The long frame recommended some years ago by Quinby is preferable, especially for wintering.

C. I. Balch.—If we expect to succeed in making apicultural pursuits a success, we must use a frame that will give us a compact brood nest. This will greatly augment our success in wintering. Several years ago I constructed several hives holding ten frames in the usual manner, with a stationary division board in the rear.—Back of this was a space for holding two combs, a one-inch hole giving bees access to them from main apartment. In winter, left it open and have never lost a swarm in them.

James Heddon.—In my county, there is but one hive that has been continuously occupied by bees during the past seven years. This was an old box hive, that had remained on summer stand every winter, having abundance of ventilation. In transferring it in April, obtained 250 pounds of honey, and bees enough for two good swarms. I found drones in abundance. Though this additional evidence in favor of large combs.

Sec. Burch.—What were the dimensions of the hive?

James Heddon.—Three feet square, and thirty inches deep.

Mr. Evarts.—I have experienced difficulty in obtaining box honey on large hives. What is the remedy?

James Heddon.—To get the most honey you must have it stored in close proximity to the brood.

C. I. Balch.—I have had 216 pounds of honey stored by a swarm in a large hive. It was comb honey obtained in small frames. I get more than twice the amount of surplus honey in large hives than I do in small ones, while the bees in the latter are very apt to come up missing in the winter.

J. P. Everard.—Difference of locality influences the result. We should not loose sight of this.

James Heddon.—Cause and effect follow each other. Can we not ascertain the cause?

Pres. Balch.—When bees are wintered on summer stands, I find old box hives, full of cross sticks, do the best. Ease of access to all parts of the hive, and little ventilation are thus secured. The space around movable-frames is a great detriment in winter and early spring. If we could dispense with it entirely, so much the better.

A. S. Haskins.—Which is the best location for surplus honey, heavy timbered land or "openings?"

H. A. Knapp.—I prefer a location which was originally an unbroken forest.

C. I. Balch.—Much depends on the season. One season timbered land may be the best, and the next *vice versa*. White clover is very uncertain in its yield of nectar.

Adjourned till eight o'clock p. m.

EVENING SESSION.

The convention was called to order promptly at eight o'clock. President Balch in the chair. The subject of discussion for the evening was announced by the chair to be "*Wintering Bees*," in its broadest sense. Pres. Balch read an able paper on "Ventilation" and the relation it sustains to the loss in wintering bees.

The discussion was opened by

James Heddon.—Ventilation is an important feature of successful wintering. Wintering 36 stocks in a special repository that would hold 150. Gave ample upward ventilation. When the temperature was 10 degrees below zero outside, it was 34 degress in the repository. Bees are more quiet with a higher temperature. In order to attain the best results, keep the temperature at 45 degrees or above.

H. A. Knapp wintered in a cellar several years without ventilation, and lost heavily. The past two winters had taken off honey boards, filled the caps with straw, and had good success.

Pres. Balch.—Did you winter in a house cellar?

H. A. Knapp.—I did.

Pres. Balch.—That accounts for the loss.

H. A. Knapp.—I think not. The two past winters I had the bees directly under a living room—never had better success. My cellar is very dry.

James Heddon.—It seems from reports that bees have wintered well with and without ventilation, and *vice versa*. One thing is certain: long continued confinement and severe cold weather produce disastrous results.

H. A. Knapp.—Ventilation should be given so as to avoid direct currents of air through the brood nest.

T. F. Bingham.—Notwithstanding this learned discussson on ventilation, success depends altogether (!) on luck.

The secretary read a paper entitled a "New Method of Wintering" by H. E. Bidwell, detailing the success attending experiments made with a view of attaining complete and uniform success in wintering bees. This method gives promise of being a simple and efficient safeguard against loss in "Winter Bee-Keeping."

T. F. Bingham.—Mr. Bidwell's plan is certainly unique; and if it shall prove what is now hoped for it, will be one of the greatest achievements of modern apiculture. I am convinced that one-day's fly with the mercury at 45 degrees is only an aggravation. Not until the bees had flown three or four days in succession with the temperature at 60 degrees, was dysentery checked in my own apiary. It is a disease, just as much as typhoid fever. Cold may aggravate the disease, but does not cause it. An affected swarm will communicate the disease to those around it, either by contagion or the uneasiness caused by excitement. Gave lower ventilation—none above. Think the last immaterial. Bees must fly at least once a month, commencing in December.

James Heddon.—I tried Mr. Bidwell's plan; success limited.

C. I. Balch.—When I learned of the "Bidwell method" I decided to test it at once. Did so and failed. I then visited Mr. Bidwell and found it a complete success with him. My own failure was owing to non-compliance with the requisite conditions.

T. F. Bingham.—Much has been said in reference to dysentery being caused by honey. Close observation convinces me that, while honey *may* aggravate the disease, it is never the prime cause. "Novice" has lauded sugar syrup to the skies, asserting that it will winter bees without loss. Had he not better demonstrate that *he* can do this, before making such sweeping assertions.

Jas. Heddon.—I wintered in a special repository. Sugared one half; all wintered equally well. Those left out-of-doors in 1872 all died before those inside had any disease.

Dr. Southard.—Have tried many plans, and lost in nearly all. Wintered in cellar the past winter. Bees went into winter-quarters very strong. Combs moulded badly, but lost only one swarm when set out; lost very many since. Honey was of a better quality than the year before, but lost more bees.

C. I. Balch.—Have had more candied honey the present spring than ever before, and have lost more bees also.

T. F. Bingham.—I used artificial heat in my building the past winter, and think it indispensable. Had no dampness—no cold—and not a mouldy comb. Every comb is bright and clean—the bees leaving the hives to die. Think 35 degrees the right temperature. High temperature and breeding go together. Science may aid us, but after all we must trust to luck (?) and Providence for results. What are moth-proof store-combs worth, provided they can be made?

James Heddon.—Double value; that is, if natural combs are worth $6 per hive of ten combs, artifical ones would be worth $12. I would willingly make that difference.

T. F. Bingham.—If we can procure drone comb for wintering, we can avoid all disease. Bees gormandize pollen and rear brood, which is THE *cause* of dysentery.

James Heddon.—In feeding sugar syrup last fall found little or no brood—abundance of pollen. Deprived a portion of natural stores and pollen, substituting the sugar. All wintered equally well, and all breed alike this spring. Had all young, vigorous, Italian queens.

T. F. Bingham.—We continually hear of the wonderful workings of the bee: its skill in science, and proficiency in architecture; the hexagonal cell, etc. The truth is, bees build the hexagonal cell because they could not do otherwise; were compelled to this in order to perpetuate their own species.

Pres. Balch.—So far as my own experience goes, all insects work by instinct, not science. In wintering, I experience more difficulty in spring, the warm days enticing them away from home in search of food—than in cold weather of winter.

After further discussion, the subject of time and place for the next annual meeting was taken up. Many were opposed to

having it in connection with the State Fair —too much outside attraction to make the meetings a success. Later in the season, when the bee-keepers could command more leisure, was deemed preferable. The convention finally adjourned to meet in Kalamazoo, on the third Wednesday of December next.

H. A. Burch, *Sec. pro. tem.*

We give below statistics, as far as ascertained, of what our bee-keepers did last season. We think the showing not altogether unfavorable, even when compared with that of the National Society. It will doubtless be observed that the "bee-disease" has not subsided altogether "out West."

Names of Members.	No. of stocks May 1st, 1873.	No. of stocks Oct. 1st, 1873.	Am't of honey obtained.	Kind of honey.	How Wint'r'd	No. of stocks May 1st, 1874.
A. C. Balch.....	14	31	300	Box..	Cellar ..	25
T. F. Bingham...	84	180	6000	" ..	House ..	22
H.A. Burch.....	30	45	2100	" ..	Cellar ..	34
C. I. Balch.....	11	22	.....	.....	" ..	15
E. Bennett.....	29	70	1000	Ext ..	Out door	60
James Heddon...	16	37	4200	" ..	House ..	36
Mr. Ward.....	2	6	175	" ..	Cellar ..	6
A. J. Daniels	2	6	.....	.....	" ..	6
C. J. Daniels	8	15	300	Box..	" ..	1
A. S. Haskins....	7	10	300	" ..	Out door	10
W. B. Kromer...	5	7	50	" ..	"	7
F. E. Fowler.....	1	1	.....	.....	Cellar ..	0
Mr. Evarts.....	2	2	75	Box..	Out door	2
Mr. Dicer.....	7	8	600	" ..	"	7
Mr. Wilcox.....	14	15	675	" ..	"	14
Mr. Lominson ...	5	12	60	" ..	"	11
H. A. Knapp.....	2	14	200	Ext ..	Cellar ..	14
A. Caniff.....	14	14	287	Box..	Out door	14
Dr. Southard	22	41	800	Box & Ext.	Cellar ..	29
H. King	11	28	300	Box..	Cellar & out-door	29
Mr. Hudson	16	37	400	" ..	Cellar ..	34
J. P. Everard	14	36	500	Ext ..	"	24
J. Tomlinson	5	20	460	" ..	Out door	5
H. E. Bidwell....	100	160	7000	Box..	Cellar ..	154

For the American Bee Journal.

Novice.

Dear Bee Journal: Were we to set about picking all the flaws in friend Adair's writings and works that we could, as though we had a case to work up, and bound to show all his weak points, etc., we presume we might keep up an animated controversy all summer. Some would applaud and say, "now you've got him, Novice, he can't get around that," and perhaps an equal number would say, "Adair is too much for him, he had better twist out of it as he has a way of doing, etc., etc.;" and perhaps a few might profess a particular sympathy with *each* ones side when writing *them*, and this latter class are productive of the most mischief perhaps of all. One class would become more and more settled in their convictions that Novice was the aggressor, and the other *vice versa;* and no real good would come of it all, any more than will perhaps from further arguments at present in regard to "Queen's wings."

Perhaps Mr. Adair is right, and that we have not done him justice. If so, we beg his pardon and will endeavor to submit with better grace when we see reason to conclude he is right all through Progressive Bee Culture. In place of arguing as to what is on the inside page of the cover, we would ask those who have the curiosity, to read it and form their own opinion. If we misrepresented, we beg pardon, for we did not intend to, and cannot see now that we did, in substance.

Although Mr. A. has taken extracts here and there from our writings, and held them up in a way that makes one look ridiculous, and in a few places does us gross injustice, we cannot really think it best to censure him so much, for this is a common method of attack in controversies. Again, several things appear badly against us because all the facts are not known; one of them is in regard to the Peabody Extractor.

Were we to tell just how we came to recommend it publicly we should drag another person forward into a controversy perhaps, so we prefer to let the blame rest on us. With the rapid strides bee-culture has made, it has many times been hard to decide what is best, and we really must confess on looking back that Mr. Adair has some reasons for his charge respecting what we have advised.

Will he and some others remember that our opinion was continually asked and is yet, on many difficult points, and we could do no better than to answer them to the best of our honest convictions. If he ever had any such foolish belief that we are "capable of the job of regulating the whole bee world," we certainly are cured of it now. Reports of losses of whole apiaries come to us from all quarters, and under seemingly almost all circumstances, and we honestly haven't a word of advice to offer. If friends Adair and Gallup, would tell us how many colonies they had in the fall, and how many they have now,—May 29th,—we might form an opinion as to how much aid we might hope to expect from adopting their long hives and mammoth colonies. So far as we can learn, stocks made purposely of double strength in the fall, have fared but little better. Although as we have said, failures are reported when everything seemed most favorable. On the other hand, Apiaries located but a short distance away, have wintered as usual under even unfavorable conditions. Dysentery seems to have had little or nothing to do with it this spring, but the trouble seems to have been simply a dwindling

away of the bees, until none are left to care for the brood. We have never yet found a case that reported unfavorably in regard to sugar for wintering when the full facts were brought out, unless it be the one on pages 132 and 133, and we would be much obliged to the writer of that article for his full address.

It is well known, we believe, that our reverses have been given just as faithfully to the public, (perhaps more,) as our successes and we can hardly consider it fair to make an enumeration of the former only, as Mr. Adair has done, sending eggs by mail, for instance ;—this we were induced to do by accepting the statements of some whom we considered trustworthy, before we had had an opportunity of verifying the matter ourselves. However we offered to refund all money sent us for eggs, as soon as we discovered it to be a failure. And by the way here comes something queer. Mr. Adair, among the rest, wrote us for eggs, saying his stock of Italians had got reduced or failed, or something of the sort, and at the convention he states that a number of queen cells were started on the inserted comb and *all of them produced queens.*"

This was the *only instance* we know of when a single queen was reared when the eggs went out of our immediate neighborhood, or so far that they could not be inserted in a hive the same day. Why should Mr. Adair class it as "vagaries," if he succeeded so well, in fact far beyond everyone else? Since we have got your ear friend A. please tell us where the "Annals" is that your advertisement keeps saying was out in Dec. 1873.

We are not yet convinced that queens on an average can use more than 20 combs, when we are, we will make hives longer. You wouldn't have a body believe a thing before they thought it was so, would you? We dont wish to appear to doubt what you and Mr. Gallup say about the capability of your queens, but those we are acquainted with frequently fail to occupy ten Langstroth frames. Shall we accept it as a fact that the very idea, of occupying a "New Idea" hive fills their little selves with the boundless ambition of being able to fill every cell with eggs in 24 or more frames?

In soberness, the bees we have known, and the ones we get letters about, do not deport themselves near up to accounts we get from Quinby, Hazen, Gallup nor Adair —begging their pardon if they object to being thus put into a "four horse team,"— and we have seen them tried in 18 or 20 frames spread out horizontally for several years past too. But we do get by far too many accounts of "blasted hopes," to decide that bee-keeping at the present time could even be considered a safe business for anyone to embark in largely.

Our offer to make the Quinby hive 25 *per cent* less, ready to nail, should read 25 *cents* less, ready to nail.

We beg pardon, Mr. Editor, if we are writing rather dolefully, but we have no facility for invoking merry words when prospects do not seem to warrant them.

At present we have only 16 queens, and scarcely bees enough with them, for 3 good colonies. Unless Mr. Adair objects, on the ground that we have not earned the title, we would prefer to keep on as your old friend, NOVICE.

P. S. It is no more than justice to ourselves to add that we made the remark over a year ago, that if *as much* honey could be secured in a hive of double width, as with the two story one we had better adopt it simply to avoid the laborious operation of lifting off an upper story in extracting. A trial of such hives in different localities, it seems, would demonstrate that full as much honey can be secured thus. Now the Langstroth frame was planned with an idea of a two-story hive, or at least for surplus boxes on top. Should we abandon them and spread the 20 frames out horizontally, we would have a hive much more difficult to handle than one with narrower and deeper frame; also, it would be difficult to make a cover for such a hive with a single board which can be done readily with a frame not exceeding 14 inches in depth. Mr Langstroth suggests such a frame (see page 38 *Gleanings*) with no thought of Adair's "New Idea," and in deciding on the dimensions of a frame to be used solely for the extractor we had no idea of copying the above more than in adopting the frame which he had named the Adair frame in our classification of frames. This frame being about midway in length and depth between the extremes as Mr. Gallup partly states it, it would seem, that there would be a greater probability of its being adopted as a standard. Our reason for turning the frame crosswise is that, in using such hives in our Hexagonal Apiary they must almost of a necessity be turned so as to stand close up to the grape vine trellises, or they would obstruct our walks. We prefer the entrance in one or both ends, because in using a division board it can be adjusted without interfering with the entrances. In recommending our Standard hive to our friends we do it with no expectation of realizing any such great advantages as the advocates of the "New Idea" claim, over the two story hive. If it answeres just as well we shall be pleased, because it lessens the labor of extracting; if it shall do all that Adair claims for it under all circumstances, we will most cheerfully record him the full credit of horizontal hives over two story.

Do not our readers agree that we are excusable in feeling much hesitancy in accepting Adair's reasoning? see page 129 Bee Breathing; and shall we clip Queens Wings? page 137. The former seemed to us to be only the reviving of an exploded theory so palpably erroneous as to require no other notice than to simply call it "folly". Prof. Cook has our sincere thanks for coming forward at a most opportune moment, and giving such support to our position, as could only be furnished by a skilled Entymologist. With pleasure we accept scientist's apology, and also thank him for his kind reproof.

Bees as Architects and Mathematicians.

Man is obliged to use all sorts of engines for measurement—angles, rules, plumb-lines—to produce his buildings and to guide his hand; the bee executes his work immediately from her mind, without instruments or tools of any kind. "She has successfully solved a problem in higher mathematics, which the discovery of the differential calculus, a century and a half ago, does not enable us to solve without the greatest difficulty." The inclination of the planes of the cell is always just so that, if the surfaces on which she works are unequal, still the axis running through it is in the true direction, and the junction of the two axes forms the angle of 60 degrees as accurately as if there was none.

The manner in which she adapts her work to the requirements of the moment and place is marvelous. In order to test their ingenuity, Huber glazed the interior of a hive, with the exception of certain bits of wood fastened on the sides. The bees cannot make their work adhere to glass, and they began to build horizontally from side to side; he interposed other plates of glass in different directions, and they curved their combs in the strangest shapes, in order to make them reach their wooden supports. He says this proceeding denotes more than an instinct, as glass was not a substance against which bees could be warned by nature, and that they changed the direction of the work before reaching the glass, at the distance precisely suitable for making the necessary turns, enlarging the cells on the outer side greatly, and on the inner side diminishing them proportionately. As the different insects were working on the different sides, there must have been some means of communicating the proportion to be observed; while the bottom being common to both sets of cells, the difficulty of thus regularly varying their dimensions must have been great indeed.—*Scientific American.*

For the American Bee Journal.

The Bee Disease.

For three years past I have remained somewhat silent in regard to the calamity among bees termed, Dysentery, learning what I could from the bee journals and other sources; so many conflicting opinions have been expressed that I should even now be left in the dark as to the cause, were it not for the dear-bought experience I have had during these three years. I will give a few facts and let others judge for themselves.

In the spring of 1871 I took a quantity of bees to work on shares, the latter part of the season was very dry and no breeding of consequence was done. In the fall the man that owned the bees took his away. He sold some 20 swarms that I did not learn the fate of; about 60 that he retained were put in a cellar in the bank. All but two or three swarms came through in good condition. I had 110 swarms which I packed by the side of a tight board fence with straw betwixt, behind and above. Some 20 of the number were put into a cold cellar. All had the so-called Dysentery, and I lost 80 swarms before May. In the season of 1872 I increased up to 83 swarms, packed again as before in winter, not being satisfied but that was the best way yet to winter out of doors. In the spring of 1873, May 1st, I had lost 76 swarms, leaving 7, and 2 of which could be said to be in good condition; the other 5 seemed to be demoralised, killing and superseding their queens. All had the dysentery but the two swarms above mentioned, they were very strong. The swarms were a part of 14 left on their summer stand in the Badger State hive to test the quality of the hive for wintering. My neighbors again wintered his well in the cellar.

Not being entirely discouraged with my losses, I went at it again with a will. I bought some bees and worked some on shares, so that in the fall I had some 45 swarms.

Not daring to venture another Poland winter, I concluded to build a bee-house to put the pets in; I built it double-walled of wood, 8 inches between filled with sawdust, and the outside veneered with brick, made double doors and ventilated with my bees in, the thermometer indicating from 35 to 40 degrees above zero. I think it would have been better if I had seen it up to 50 as some of the very small swarms had the dysentery while all the strong ones did well, bred up and came out strong this spring; some of the stocks that I worked on shares the owner took away the last of November. I advised him to put them in a warm place but he had more confidence

in his own judgment than in mine. I saw him the first of April, "Well, neighbor," said I, "how are the pets?" "All dead," he replied. "Where did you put them?" "I put them in the barn on the scaffold over the north door. They were being opened half a dozen times a day all winter. A very little hay was put over them." This was the very worst place he could put them, unless on top the barn; well, I went to see them and sure enough they were all dead, while mine that stood by the side of his before dividing, were all alive.

With the experience I have had, I have come to the conclusion that long continued cold or dampness will produce the so-called dysentery. Weak swarms will suffer first even in the same room or out of doors. I would not say that some other causes might not produce a disease of a similar kind. I knew once some ten years ago that the bees died with a disease resembling the dysentery. The season before had been very wet, so much water in the honey collected that but little was capped over when cold weather came that winter. In the ensuing spring many bees died.

We are now brought to May 23rd. Bees came out of winter quarters comparatively good, but the long, cold spring has carried away probably one-half the swarms that were in good condition the first of April. So you see we have the *blues* again. I am running about 35 swarms at home. Some are in the Excelsior Hive, some in the Badger State Hive, and some in the High Pressure Hive, a combination of the two. It is so arranged that two single ones may be worked,—single at 2500 cubic inches, or combined may be made to hold five, ten or twelve thousand five hundred cubic inches. It may be worked with ten, twenty, thirty or forty frames. It may be worked two-story on Novice's plan, a long one-story on Adair's plan, with 40 six-inch boxes on Hazen's plan, with the twin hive plan of Gallup, or long boxes and little frames plan. I will report hereafter the success of each.

A. H. HART.

Appleton, Wis.

For the American Bee Journal.

Do Bees Injure Fruit?

I have noticed a controversy in the AMERICAN BEE JOURNAL in regard to bees destroying fruit in which statements were made, I am sorry to say, in language that the subject did not by any means call for. We may present facts and arguments without unkind words.

I have been associated with bee culture half a century. Have kept bees and cultivated fruit together for about twenty years and will present a few facts. Langstroth says at page 85 of his excellent work on bees, "the jaws of the bee being adapted chiefly to the manipulation of wax, were too feeble to enable it readily to puncture the skin even of his most delicate grapes." This was for me conclusive, but to the facts:

1st. Three years ago Thomas Atkinson introduced the Queen Bee Hive with a slide at each side to form an air chamber to equalize the temperature of the hive. This slide was made of paper-board nailed to a wooden frame, and the bees cut it into holes, till pints of paper dust had to be removed, and the paper-board had at considerable cost to be changed and wooden picture-backing put instead. This was the case with some hundreds of hives.

2nd. In transferring bees, to fix the comb into the frames, I tied the combs in with cotton cord, and the bees cut that and pulled it out, many getting fastened in the string and dying; they also cut out hemp twine in the same manner, and chair-seating cane is now used entirely.

3rd. Having 5 acres in grapes of many varieties, my daughter, in gathering Concords called my attention to the bees alighting on the fruit on the other side of the trellis and eating the grapes; and both of the past seasons all of the family have watched the bees *alighting on perfect berries, cut the skin and fill themselves with juice.* It is so with the finer kinds of plums, pears and the thin skinned peaches.

My loss in this manner has been quite considerable. I love the bees, love to keep them, do keep them, and just so with fruit, but the facts are true and it is only just that they should be known.

Having had about 30 colonies the damage was considerable, but, then, bees are kept by my neighbors and they feast on the fruit as well as my own, and I would lose the fruit and not have any honey if I gave them up.

Whether there are differences in climate or in the want of a full amount of bee forage in St. Louis Co., Mo., it is at present hard to say. Nay, may not the instincts and habits of the bee develop, and as he finds fruit-juice more abundant and more easily obtained than the nectar of flowers, may he not prefer it?

As the season of all these fruits will soon be with us it will be a good opportunity to watch, make notes and report.

Names could be given as witnesses but facts will convince much better. Kind tones are more taking and equally as impressive as harsh, unkind words and low slang or inuendoes.

I feed my bees when they need it and never poison or brimstone them.

WILLIAM MUIR.

Fox Creek, Mo.

For the American Bee Journal.

Do Bees Injure Fruit?

In the June number of the AMERICAN BEE JOURNAL, Prof. Riley tries to sustain his position, by affirming that *he has seen bees cutting into fruit.* I have just read an article in the journal *L'Apicoltore* of Milan, Italy, (May no.) that I translate, in answer to that bold assertion.

"Being a lover of good wine, I manufacture mine with shrivelled grapes; my crop amounts annually from 30 to 40 *hectolitres** of such wine, worth an average 1 franc 75 centimes to the litre.† As my grapes are gathered, I spread them upon a mat of reed or straw, in a sunny place, in front of my apiary; where they remain to shrivel for about 15 days.

For the first two or three days the mats are covered with bees; but I do not care, for I know that they do no damage; having ascertained that they gather only the juice of the berries, rotten or damaged. As soon as the injured berries are sucked dry, the bees quit visiting the mats, for they cannot cut the skin of the berries. In my case I can say that, instead of damage, the bees help me greatly; for they take off entirely, from the bulk of my crops, the putrefied juices, which would give a bad taste to my wine." GACTANO TAXINI.

Coriano, Circ. di Rimini, February, 1874.

I think that after such testimony, the assertion of Prof. Riley is of little account.

Hamilton, Ill. CH. DADANT.

* An hectolitre is equal to 25 gallons.

† Equal to $1.40 the gallon, that price is very high for Italy.

For the American Bee Journal.

Doolittle's Article.

Our bees had but four days on which they could fly, from March 3rd to May 4th; and by the 15th of April all brood rearing had ceased in small and medium stocks, and pretty much so in large ones. On March 18th the mercury rose to sixty degrees in the shade, and bees were seen at work quite briskly on stumps of the sugar maple, but with the night it became cold and we had steady winter weather until April 15th, when they had a chance to fly again. On April 19th, 22nd, and 25th, snow fell to the depth of one foot, and lasted until May 3rd, during which time the mercury did not rise above 41 degrees, even in the middle of the day, and went down as low as 18 degrees.

May 9th it came off quite warm, and the bees began to hatch the few eggs the queen had laid, and brought in the first pollen of any account, which was from elm and soft maple. Skunk's cabbage was in full bloom from March 20th to April 18, but it was so cold that the bees could not get to it. On the whole, we think it was the worst spring for bees we ever knew. May 4th the first day that we could really work at bees, we examined them and found some so weak that we thought it best to unite them. We did so, and now have 51, one of which proves to be queenless, so we shall call it but 50 stocks to commence the season with. Golden willow commenced to blossom May 20th, from which our bees frequently get from 5 to 7 lbs. of honey, but owing to the cold and rainy weather they could get nothing, and what was worse still, they killed nearly all the larvæ: so little but sealed brood and eggs remained. May 24th it became warm again and our bees have done their level best ever since, and the hives are beginning to be quite well populated with bees. Apple trees blossomed May 29th and our strongest stocks made a gain of 12 lbs. of honey during the time they were in bloom. White clover was nearly all killed from freezing the past winter, so we do not anticipate much from that, but basswood hangs as full of buds as we ever saw it. We forgot to say we put one swarm in manure "a la Novice," and that died out-right some time during the cold weather of April. Our first drones were flying June 5th, which is nearly two weeks later than we ever knew them before. We have spread the brood once in six days, so we have our strongest stocks nearly full. What we mean by full, is brood in from 8 to 10 Gallup frames.

By the way does not Gallup and Adair get off some pretty big notes about the capacity of a queen for laying? We have had queens from nearly every breeder in the United States and the best we ever had would not keep more than ten Gallup frames full of brood, or about 900 square inches of comb. occupied with brood for two months in succession. We came to the conclusion that 800 square inches of comb would be about the average, so last year built our new hives to hold but nine frames instead of twelve. As the bees will have some honey and pollen in their combs the 9 frames give us about 800 square inches of brood, or 1380 cubic inches comb space. We place 42 boxes of 2 lbs. capacity in this hive and expect to get all the honey the bees make in the boxes, but last year they stored enough to winter on in the frames.

Why does not Adair tell us how much honey he receives on an average in his apiary with those prolific queens and large hives? Let us figure a little and see what is best. 800 square inches of comb would give 40,000 worker bees every 21 days or 1,905 every day, and as 45 days is the average life of the bee in the working season we would get 85,625 bees on the stage of

action at once. 21 old stocks of the above brood capacity worked by us in 1873, produced on an average 80 lbs. of box honey, and 60 stocks worked by N. N. Betsinger, Marcellus Falls, N. Y., produced on an average 100 lbs. of box honey. Now as 4,000 cubic inches comb capacity (the amount Gallup and Adair say their prolific queens will keep occupied with brood) is nearly three times the capacity of the hive used by B. and myself, they must get the enormous amount of 256,000 bees on the stage of action at once. This would be 5,700 bees daily or that amount of eggs for the queen to lay every 24 hours. As it is estimated that, by the use of the extractor one-third more honey can be obtained than with boxes, an apiary with such queens should produce on an average 320 lbs., to be equal to that produced by us or 400 lbs. to equal that produced by Betsinger. As Gallup's hives worked exclusively for extracted honey produced in 1873 only 100 lbs. per colony (the same amount produced by Betsinger in boxes) and as it will take three times the honey to feed the brood in the large hive, we will leave the reader to tell which is best—one colony in a large hive to produce 100 lbs. of extracted honey, or three colonies in small hives with the same amount of brood to feed, to produce 300 lbs. of box honey. If friend Adair can give a better report than Gallup we would like to hear from him on the subject, as we want all the light we can get.

G. M. DOOLITTLE.

Borodino, N. Y.

For the American Bee Journal.

How to Introduce Queens.

I write with a sincere desire to benefit many a fellow bee-keeper, who, when the fine golden queen arrives will ask himself the perplexing question—"How shall I introduce her." I have been so uniformly successful since I adopted the following method that I unhesitatingly recommend it. It is certainly as safe, and I verily believe much safer than the common practise of caging, and the advantages over that plan are too obvious to need mentioning.

To illustrate—Have a new queen at hand, also two empty hives B and C, the latter should be nicely cleaned. Now open A and proceed to find the queen you wish to supersede. This over, the work is soon over. I look over the frames, guess where she is and lift that frame out first. When satisfied she is not on it, place it in B, and try another. If not found on this, the chances are, if she is a black queen, that you will have to search the corners of the hive for they are shyer than the Italians. The queen dispatched, remove A and place C with its entrance near where that of A stood, but with positions reversed. Now replace the combs in C, first shaking off the old bees. The young ones will do no harm, and in order to confuse the bees still more, I change the positions of the frames where the combs will admit of it. These all in place, cover with the quilt, now roll up a corner at the back end, and slip her majesty in, roll back and put on the cover. Place a hiving-board in front; put the two hives (if there are bees in both,) at the foot of this on their sides, and let the bees enter A gradually, like a natural swarm, thus introducing them to the queen, who by this time is less confused and feeling more at home than themselves. The bees all in, the hive should be turned so as to occupy the exact position that A did. No bees will be lost, and my experience has proven to me that all will be well. The regular order of business resumed at once, the same as if no change had occurred.

Perhaps I ought to have said, that I usually have at hand some sweetened water scented with peppermint and sprinkle the combs slightly before putting on the quilt, and also the bees, before allowing them to enter, though I have occasionally omitted this precaution, and observed no difference in the result.

E. K. G.

Appleton City, Mo.

The Late Dr. T. B. Hamlin.

It is a painful duty to announce the death of so prominent an apiculturist as Dr. T. B. Hamlin,—one who as a friend was so highly esteemed by all who knew him. This sad event occurred at his residence, near Edgefield Junction, Tennessee, on the 24th of last May.

Dr. Hamlin was born at Red Hook, on the Hudson River, N. Y., in June, 1810. At the age of sixteen he was left with no near relatives and but little education. His prominent position and financial success in life are wholly due to his own indomitable energy and perseverance combined with his uprightness of character. At about eighteen he was foreman of the largest watch-making establishment in Albany N. Y., and probably the largest in the United States. After preparation in dentistry at Albany and while watchmaking in Lee, Mass., he commenced the practice of that profession in Virginia. While there he took an active part in the organization of the first dental association known in the world. He afterwards removed to Alabama and thence to Nashville, Tenn., where for twenty-five years he followed his profession with eminent success.

More than forty years ago the young watchmaker of Albany, shortly after his marriage in Lee, Mass., where he had established in watch-making, commenced the keeping of bees. This last named occupa-

tion was continued for many years thereafter in connection with his profession as a dentist. In 1861 his health, which had failed early in life, became quite poor, and he gave up the practice of dentistry and repaired to the sea-coast at Newport, R. I. At the close of the war Dr. Hamlin returned to Tennessee and devoted his whole attention to bee culture and the nursery business. The extensive business of the "Cumberland Nurseries" which he established in connection with Mr. B. B. Barnum—a practical nurseryman, was conducted mainly by the latter, while he devoted his attention almost wholly to the apiary. He was the first to introduce the Langstroth movable comb hive and the improved methods of bee culture in the South, and to engage in the importation and rearing of Italian bees, which he did extensively, and aided in their introduction throughout the United States. He assisted greatly in establishing the "Tennessee Apiarian Society" of which he was President, and also, the "National Bee-Keepers' Association," being Vice President of the latter at the time of his death. His interest and enterprise in the promulgation of apiarian knowledge, especially in the South are worthy the highest encomiums. His own success in increasing his bees from a few colonies to over three hundred and continually getting large returns from them, furnishes a practical proof of the reliability of his teachings. His little work on bee culture has wrought a great change in the manner of keeping bees in many localities here.

Dr. Hamlin's marked energy of character, his perseverance, his lofty aspirations after perfection and his kindness and affection as a husband, a father, and a friend are well worthy of imitation. An upright, zealous member of the Church, a prominent leader in the Masonic fraternity, held in high appreciation by the members of his profession, and an enthusiastic master af apiculture, he is mourned by a large circle of friends and relatives, who alone are comforted by the knowledge that he so lived that

"When the summons came to join
The innumerable caravan that moves
To the mysterious realms, where each shall take
His chamber in the silent halls of death,
He went, not like the young slave, at night,
Scourged to his dungeon, but sustained and soothed
By an unfaltering trust in God, he approached his grave
Like one that draws the drapery of his couch
About him, and lies down to pleasant dreams."

FRANK BENTON.

Edgefield Junction, Tenn.

The bees do not deposit in the cells all the pollen they gather. Many of the pellets are taken from the gatherers as they return with laden thighs, and are consumed, to qualify the workers for secreting wax or preparing food for the older larvæ.

Sundry Questions and Answers.

CONDUCTED BY CH. DADANT.

QUESTION.

As you are in charge of the questions in the AMERICAN BEE JOURNAL, I would ask you to answer the following through the JOURNAL I would like to import queens myself. To whom shall I send? Are the queens sent through the mails or as freight? and at what cost? What proportion usually reaches this country in safety? You could give much information to many readers on these points.

Hartford, N. Y. J. H. MARTIN.

ANSWER.

For the last seven years I have been trying to find an Italian bee-keeper able to send queens so packed as to reach this country alive. Since my return from Italy, I have received three invoices; one containing 30 queens: 28 were dead—only two were alive. What was the matter? The Italian breeder had failed to comply with the simplest precautions that I had indicated.

In a subsequent invoice all the queens were dead, for the same reasons.

It is impossible to imagine how queer are the ideas which can germinate in the minds of the Italian bee breeders. In an invoice of 14 queens, I found five that were put up in queen cages, very pretty queen cages indeed, with two or three workers, and all dead of course. In that invoice one queen alone was alive, after 23 days journey; it cost me more than $50 in gold.

In his second invoice the same man tried a second time his queen cages, in spite of my warning, and refused to replace the queens that died in them, and feared that it was impossible to send queens here alive.

Another bee-keeper sent me 16 queens, and put under the package, without my cognizance, three bottles of wine for sample. My correspondant at Havre informed me that they were seized by the French custom-house officers, while I was here going every day to the express office, and writing everywhere to know why my bees were so long to arrive at Hamilton. I wrote to the sender to replace them, but he made his second invoice so unwillingly and so carelessly that very few queens arrived here alive.

I could narrate many more of these costly experiments made by the Italian breeders, at my expense.

In my long experience I have received but two or three invoices which could give a beneficial result. Combs broken or loose in the boxes; too many or too few bees: too much or too little honey; sponges with sugared water; unsealed honey; sealed brood instead of honey; rough handling; boxes placed on their sides or in the vicinity of noxious matters in the steamers; too long delay

in the voyage; and moths. Ah! yes, moths! One day I received a package of 16 queens; not one live bee in the 16 boxes, but plenty of living and flying and creeping moths in every box. How good that smelled? Prof. Mona wrote to me, a few years ago, that, in Italy, it was impossible to send bees without sending moths: the winters are too mild there to kill the moths.

Never have I seen so many moths, at the same time, as in a well known and far famed apiary of Italy.

In fact, I have received but one package without moths and that invoice was the last, received a few days ago, with 8 living queens. Eight living queens out of 16, after 37 days journey. That was marvelous: but the bees were so carefully packed; the little attentions that I had prescribed had been so completly observed, together with some others so intelligent and ingenious cares, that I have at once sent to that careful breeder an order for 100 queens, to be sent in six packages, from week to week. This man lives not far from the shores of the Adriatic Sea, in one of the best bee districts of Italy. He is a very careful and successful Apiarian. I could say, the first careful bee breeder that I have found in Italy.

Many bee-keepers, of this country, after losing money in their importations, have given it up in disgust. But, in spite of the losses and disappointment, I have persevered; surely there are some conditions which would insure success. Of course I had to learn these conditions, one after another, by examining the boxes on their arrival here; the requisites of a successful journey being determined, the most difficult to be found: a man who could comply with them without varying, *to do better*.

The importation of bees is like gambling, with its illusions and its deceptions. When the bees arrive, I feel the same sensations as a gambler at the lottery; and too often the result is the same: loss, dead loss. But to-day I am sure to have turned the chances on my side; if the man continues to prepare the bees as he has done for his first invoice, and I do not doubt it.

QUESTION.

In your answer to H. A. SPRAGUES in the June No. of the AMERICAN BEE JOURNAL, you say that you know of no honey yielding plant, good for hedging, in this country. Will not the honey locust, (*gleditschia triacanthos*) answer the purpose? EDGAR SAGER.

ANSWER.

The honey locust would make a good hedge were not the cattle so fond of its leaves and young sprouts. I know a Frenchman who tried it, but had to protect his hedge against the teeth of his cows.

QUESTION.

I wish to know what color the pure bred Italian bees are? I purchased a queen two years ago, about two-thirds of her progeny are what I take to be pure, that is are not quite as dark as the native bee, with three yellow bands around them; the others are about the color of the native bee. I fear she is hybrid, will you please inform me upon that point. W. F. FERGUSON.

ANSWER.

The pure Italian bees have three leather colored bands around the abdomen, *i. e.*, the first small ring which is attached to the corslet, then the second and the third. This third ring is more or less bordered with black. When the bee is empty, the leather color disappears and the bee seems to have but two yellow rings. All the bees in a pure colony have the three rings visible, in the young bees as soon as they have taken their first meal; in the old bees when they return from the fields, in the time of honey harvest. Sometimes, even in Italy, there are a few black bees among the thousands of well marked, but it is not a mark of impurity.

The color of bees is not always a sure test of purity. By selecting the yellowest queens, for several generations, there are produced bees with so much yellow and so thin black borders on the rings, that a slight dash of black blood cannot be detected in their progeny. It is on that account that some queen breeders do not like the imported Italian queens, the smallest stain of black being visible in their progeny, these breeders obtain from them a less number of seeming pure queens and consequently they claim that the Italian bees are injurious. Yet this false idea is fast disappearing, for I have received lately orders from breeders who three years ago complained of the Italian queens; and who now want dark colored bees, because they are more hardy and more fertile than the light colored.

As for myself, I consider the color of the bees but a second test of purity. My first test being the demeanor of the bees, when the combs are taken out of the hive. The quieter, the purer are the bees.

If the progeny of the queen that you received two years ago was then such as you describe it, she was impure. It is more probable that, after you received her, she was replaced and that her daughter failed to mate with a pure drone.

QUESTION.

I am using the Langstroth hive—is it good? I think if there is any better, I would like to know it. W. T. F.

ANSWER.

The Langstroth hive is good, but I prefer the old Quinby (not the new) enlarged to 11 or 12 frames. I use two sizes of hives: Quin-

by with from 11 to 16 frames 18 inches long by 11 inches deep; and the American with 16 frames 12 by 12 inches, with partition boards in both. Every year I find that there is more brood and more profit in the larger and shallow frame. If I was to begin anew, I would choose a hive with 11 frames 16 inches long by 12 high, inside; or 16½ by 13 outside. I give to the upper bar of the frames, ¾ inch of thickness, to prevent warping under the weight of honey.

For winter the brood chamber is reduced by the partition boards to 8 frames, with a dead space on both sides.

To Beginners in Apiculture.

BY PROF. A. J. COOK.

One beginner had a colony swarm last week, and though he hived them according to the rule already given, and although they seemed to take full possession, yet one thing was omitted—putting a comb of worker brood in the new hive,—and in about an hour all came out and left for a wood-land home. And thus was lost a splendid colony of Italians, worth at least $10.

Another beginner,—Mr. B.—was following directions, but as the queen cells were not yet capped, he thought to wait a little longer, and went to business as usual. About 9 o'clock a prime swarm issued from one of the two colonies. Mrs. B. who had never seen such a thing done, but had carefully read directions, and talked them over with her husband, went bravely at work, followed directions exactly, and the result is that Mr. B. now has three fine colonies instead of two.

So let me repeat, that I may emphasise the advice, *never* hive a colony in case of natural swarming,—which will occasionally happen in the best regulated apiaries,—without putting into the hive some brood, even eggs will not do. There must be capped and uncapped brood, and the above experience makes the farther advice pertinent to all beginners who are in the bonds of single bitterness, immediately procure a brave intelligent help-meet.

Again our beginner should commence to start some more nuclei, for all the summer through, queens will be needed. If the season is good you may at least hope to increase from two to six, though if the season is not *extra good*, you must not expect much honey with such increase. You also may need to replace poor queens.

Be sure that all through the months of June and July, your bees have plenty of room, thus you will be more apt to get worker brood comb—that with small cells—and more than this, you will preclude that necessary idleness, which can never be conducive to the happiness and well being of the "busy bee." Every hive should contain empty cells, and empty frames, that the gatherers may have room to store, the queens to lay eggs, and the comb-builders to form their beautiful white structures. A non-observance of this advice, and the workers will hang outside the hive, the palets of wax go to waste, and, the queen ceasing to lay eggs, the colony will become weak, unable to protect itself against robbers, and moths.

We are now in the midst of the locust season, at the dawn of the white clover, and that regal season,—the bass-wood—will come very soon. So now, as seen, is the time to get our box honey, if we desire it. Simple boxes will do. They may be made from six to ten inches each way with glass on two sides and long narrow holes cut in the bottom, the top and other two sides of half inch pine, put these immediately on the frames.

During the hot weather be sure to have your bees shaded from the hot sun, not at morn, and eve, but at noon-tide. I have known bees to honey outside the hive just because they could not endure the oven-like interior. The formation of a screen, by placing boards a little above the hives, worked like a charm. Idleness was at once banished, and the happy hum of returning industry, told of a rich harvest of prospective sweets.

One new beginner has already banished veil and bee-gloves. Another was *too* rash, and was fearfully stung. It is best to use a good degree of caution and smoke, and retain at least the veil, till all show of nervousness is gone, and you have a perfect understanding with your pets. My friend, and old pupil Mr. E. Benton, now in charge of the large Edgefield Junction Apiary, writes me that the late Dr. Hamlin—whose urbanity, candor, and Christian integrity were so pre-eminent that his decease makes a sad loss in our fraternity—never used smoke and did not believe in it. He further adds that the bees were very cross. In early spring and late summer and autumn, I believe that even the experienced Apiarists had better use smoke.

If any find a queen missing before having extra queens, give the colony comb with eggs from your best queen. In my next article I will give directions for introducing queens.

Agricultural College, Lansing.

It is a common practice to rub the inside of a hive with aromatic herbs, a solution of salt, or other substance, with a view of making the hive more acceptable to the expected swarm. But the most experienced and observant bee-masters deem this altogether unnecessary, if not injurious.

For the American Bee Journal.

Feeding Bees.

I find in our bee journals considerable written upon the subject of feeding bees. I think it an object worthy of consideration and effort, to find and pursue a system that will save the necessity of feeding at all. To secure this it is only necessary to adopt a hive in which we can effectively control the swarming and limit the number of colonies to the amount of honey produced by the accessible field.

The great body of farmers do not desire to, and will not make, bee-keeping a principal business. What they do in securing the honey produced in their fields must be done incidentally, other interests of the farm claim their principal attention. I presume few will be found among them to use movable comb hives, to raise Italian queens ; or honey extractors to furnish extracted honey for market. That must be done by experts in the business, whether they are farmers or not.

For them the best hive will give about 2,500 cubic inches in the breeding and wintering apartment ; and as much more in small frames or boxes, for storing surplus. With such an arrangement, the bees will be very likely to make a fair arrangement with the farmer, and gather the honey in his and other surrounding fields, at the halves. If the field is very good and the season fine, they give him two-thirds, requiring only one-third for consumption. My enquiry is whether it will not be better to give this room in the breeding apartment, and save the necessity of feeding at all.

These thoughts have occured to me now on reading, P. W. McFartridge's experience, in the May number of the AMERICAN BEE JOURNAL page 112—he gives as the product of his apiary a little over 4,000 lbs. He tells us that he has fed 1,100 lbs. of A coffee sugar, and that 200 lbs. of the honey soured a little he reserves for feeding. This leaves 2,700 lbs. of honey.

With 250 cubic inches ample room is given for storing a winter's supply for the bees, and feeding is unnecessary.

There must, however, be another condition implied to prevent danger, that is, that there are not too many colonies in the field. If there are more colonies in the field than can be supplied with winter stores, they must be fed or starve, even if each colony had a meeting-house to work in.

I find it difficult to so express my ideas upon this subject as to be understood.

1. If an apiary is located in a field yielding 12,000 lbs. of honey, and each colony of bees for breeding and winter, will consume 60 lbs. ; 200 colonies would consume it all.

2. One hundred colonies would consume 6,000 lbs. and give 6,000 lbs. in surplus.

3. Fifty colonies would consume 3,000 lbs. and give 9,000 lbs. in surplus.

4. If you put 300 colonies into the field there would be but an average of 40 lbs. to each colony for both breeding season and winter, and a great amount of A sugar or something else must be fed, or almost all of them starve to death.

In the last case a few of the strongest colonies might get an early start, and live throughout the winter. Possibly some of them give a little surplus ; but nine-tenths of them more or less would starve to death. Some of them would die so early that the moths, in their weakened state, would weave their webs. Some of them would wander over the combs defiling them.—Some would crawl or fly out of the hive and die, and some would try robbing to make a living. Nobody knows what the matter is. Some lay it to the moths ; some to dysentery ; some to robbing ; and some to "don't know," while the whole truth is there are far too many bees. There might have been some cases where the bees left some honey in a part of their hive that was out of their reach in a cold spell, and it is even said, "Oh, no they did not starve to death, there was honey left."

In the case of 200 colonies having 60 lbs. each in the field, perhaps one quarter just go through the winter and only half perish.

In the case of 100 colonies they would not give 60 lbs. each but some might give 100 lbs. and some 20 more or less.

So in the case of 50 colonies, 180 lbs. each. As has sometimes been known they may range from 100 to nearly 300 lbs.

What I would urge is that 100 colonies in the supposed field is better than 200. And 200 colonies is better than 300.

Indeed the farmer had better have no bees than to have so many more than his field will supply. From 50 to 100 colonies is a full supply for the field ; 100 colonies would store half the production in surplus.

While we are taught by some that "there is no danger of overstocking the field," I believe without one doubt that three-fourths of the difficulties we encounter arise from over-stocking.

Woodstock, Vt. JASPER HAZEN.

For the American Bee Journal.

My Experience.

It is some time since I have written for the AMERICAN BEE JOURNAL, but during that time my experience has been worth gold. In 1872, I lost 43 hives by dysentery, and last year, I lost 15 hives from robbery. At the end of the year I bought a beautiful $2 queen from "Olley." This queen died last season in a strong hive, which started cells profusely. I counted

52 cells on a single frame. I Italianised my whole Apiary. I had carefully cut away all drone brood from the black bees and left my pure Italian drones to preserve the queen cells. As soon as one queen came out a black queen was killed and her body cast out.

One day I had occasion to go to the blacksmith's, on my return home, I found my whole farm on fire; in less than an hour everything was consumed except my bees, and an old potatoe cellar. I and my family took shelter in an improvised log hut for 14 days. Then I had prepared a new abode, and was prepared to put my bees in the cellar by Dec. 14th. They needed feeding all winter. Lost one, and had 31 left. Fed with coffee A sugar.

On Feb. 1st, I examined and found all in good condition.

On March 15th, I found one hive dead from dysentery, another queenless and a gallon of dead bees on the floor.

As soon as the cleansing was done, I fed them warm honey, poured in the large drone cells on one side; then that was set outside to cool, then laid it down on a newspaper, honey downwards and poured the other side full. Such frames contained from 4 to 6 lbs. Feeding was easy in that manner. I fed until the 5th of May.—April gave me one day that bees could fly. I have lost 6 swarms in all. I intend to run up my swarms this summer to powerful colonies.

I intend to experiment with the Gallup system. My frames are all 12x12, this is my standard. JOSEPH DUFFELER.

Wegnoick, Wis.

Spare the toads, but place your hives out of their reach, for they can soon destroy a strong colony if they can get near enough to the entrance to catch them, as they pass in or out. Watch the toads late in the evening and at night.

Many people are fond of bees—indeed have a passion for them; but it is not enough to be fond of them, they must be skillfully taken care of, according to certain rules, applicable in every case, but more particular in bad years. Mistaken care annoys them—niggardliness ruins them.—*Exchange.*

Hives, or the habitation in which the bees live, breed and work, have been made of different materials, and in different forms, according to the fancy of people of different ages and countries. Melissus, King of Crete, is said to be the first who invented and taught the use of bee hives.—*Bonner.*

For the American Bee Journal.

Gallup on Artificial Queens.

We have never, to our recollection, given the readers of the AMERICAN BEE JOURNAL our ideas in full on artificial queens. We have given them in Mr. Mitchell's paper, and sent them in full to Mr. King; but he was afraid that his readers might learn something contrary to his teachings, therefore did not publish it. In my opinion "Novice" and others have led many a beginner astray, by advocating that there was no difference between artificially and naturally reared queens. Langstroth, Grimm, Adair, and the late Dr. Hamlin, and others, agreed with me in full. Quinby says that there is no difference and even went so far as to accuse me of never having had any practical experience in raising queens, etc.

Now to the question. What are the conditions for natural queen raising? We have abundance of bees, consequently warmth, we have abundance of food of the right kinds, and we have abundance of young or nursing bees to prepare that food properly for the queen larvæ. Now if the novice in the business will see that he has all those necessary conditions and eggs or larvæ just hatched, whether in nuclei or standard hives, he or she will raise natural queens every time—nothing artificial about them. On the other hand, we will suppose we do as many queen breeders have done; raise artifical queens about in this manner: Measure out a sufficient quantity of bees, place them in a nuclei hive, and give them comb, eggs and honey and no pollen. Confine them for 3 or 4 days before giving them their liberty, and in a majority of cases pay no attention to the age of the bees selected, but get mostly old bees, or those incapable of digesting or preparing the natural food for the larvæ, etc. Queens raised under those circumstances are artificial, or raised under circumstances contrary to nature. In such cases queens have hatched out in nine days repeatedly, and in some instances they have been known to come out in eight days; but we never have nine-day queens, if we make up our nuclei of young or nursing bees. For the novice in queen breeding must bear in mind that bees at a certain age are incapable of digesting pollen, and preparing the necessary food for larvæ. Now we will tell you how we raise queens. If in nuclei hives, we use three standard combs and always keep abundance of nursing bees, and if they do not gather pollen enough we supply them with pollen from other hives, and we like to have them have quite a quantity of larvæ on hand to feed, at the time of starting queen cells, so that they are preparing the necessary food in large quantities, and

we raise natural and prolific queens, every time,—there is nothing unnatural about them that we could ever discover. Now, suppose, as soon as the young queen becomes fertile and commences laying, we remove her and allow the bees to start queen cells from those eggs. There is no larvæ to feed, as it is all sealed or hatched out, and the bees are well advanced as to age, or in other words there are but very few nursing bees, etc., we may succeed in raising a good queen, and we may not. There is no certainty about it. Thousands of queens have been sold by queen breeders that have been superseded the first or second season after being received. A good queen properly raised ought to be good for four seasons. Langstroth and Grimm know how to raise good queens, but they could not raise them for $1 each, consequently both have quit the business.

We might have explained our ideas long ago on this subject, but we should not then have drawn out so many ideas from others. In other words, we like to have those that have received their first stock of bees give us their instructions. It amuses us hugely!

Now "Novice," would it not have been just as well to have criticised Gallup on the queen question, after you knew what his ideas were, as to criticise before you knew? Give us a clip and see what effect it will have.

I like "Novice's" grit. He gives his instructions to-day and contradicts them to-morrow, and thereby gets himself into inextricable snarls, yet he never gives up, like our friend Price, who killed himself by trying to instruct others in what he did not know himself.

For the American Bee Journal.

My Mary Ann.

My beautiful, beautiful, Mary Ann.—Yes! that same old story over again. The crow whose chicks were white. Not so fast my friend; not so fast: She is not my daughter, neither is she a blonde; but a bronze colored queen.

Well; why such an ado over Mary Ann; others have raised queens as good as she, and have made money too with bees, which is more than you have done. Let me feel joyful over Mary Ann any how.

I value money, from the enjoyment I can get from its use. What if the coffee A does disappear mysteriously. You know "my dear," we have not had a doctor in our house professionally, since those bees arrived at the express office, so strangely.

The doctor always said, exercise in the open air. How much good could I get, sweeping the side-walks with trailing skirts? You do not wear trains. I know I don't; but when a person talks to me of taking a walk for exercise, I think of the Yankee who wanted work, and a man told him, he would hire him; and set him to pounding on a log, with the head of an axe. He tried it awhile, but soon threw down his axe, exclaiming I can't do this: I must see the chips fly.

You always scatter so. I thought you were talking about Mary Ann. You keep quiet now, while I tell of Mary Ann's wrongs.

I have already been taught to respect the advice and opinion of the stronger sex; so when Mr. Harrison recommended putting Mary Ann in the cellar, I silently acquiesced. Put those five in the cellar, they will consume less there; (I knew all the time coffee A had much to do with it).

We tucked Mary Ann, and her companions under their quilts, and carried them gently into our cozy little cellar. When old boreas raged without, how thankful I felt that these "fire pets" were protected from his blasts.

These bees flew on the 7th of Nov., and we put them in the cellar on the 10th. We carried them out for a fly, on the 2nd of Dec., returning them as soon as quiet. On the 3rd of Jan., the thermometer being at 76, at 11 o'clock, carried them out for a fly. They all flew finely, but I did not like the appearance of the combs.

On the 11th of Feb. carried bees out, finding them in a dismal state; O, those bed clothes; damp and disagreeable; no more quilts for me. Some of the colonies had quarts of dead bees. Plenty of honey, with no appearance of dysentery. As the weather was very warm, I cleaned out the hives, and placed them on the east side of the house, protecting them on all sides, except the front, with straw. Made little sacks and filled them with straw, that just fitted into the porticos, so the wind could not blow them out. Every night, and on cold and windy days, I protected the fronts in this way.

Every fine day some of these bees went a visiting, and forgot to come home. One by one they dwindled away, until May 12th I found I only had Mary Ann and a handful of bees. I caged her and filled up the hive with frames of brood and bees, releasing her the next day, after sprinkling all thoroughly with sweetened water, scented with the essence of sweet anise; she is now the adored mother of a thriving and prosperous colony.

I wintered successfully 11 colonies in the open air. Hereafter, I shall winter in the open air, as the Dutchman says "shingled mit straw," every time. I put in the cap, a gunny sack filled with straw, raising the cover slightly for ventilation.

Peoria, Ill. MRS. L. HARRISON.

American Bee Journal

W. F. CLARKE, Editor.

CHICAGO, JULY, 1874.

Theories and their Advocacy.

It is during the working season that most of the theories of bee life are evolved from the apicultural mind. While the bees are busy building cells, the bee-keepers are busy building theories. There are minds that have a natural faculty for the construction of theories, even as bees have a natural faculty for cell-construction. Theories ought always to be the results of observation, and should be based on facts. But they are often like those pleasant stories we sometimes meet with, and which are headed, "founded on fact." This is generally fair notice that among what is strictly true, there will be interwoven a good deal that is purely imaginative. Imagination is very well in its place, but it must be excluded from the realm of science. It is pleasing and useful in light literature, but considerable of a nuisance mixed in with the solid and sometimes prosaic affairs of real life. Not a few of the most important of human interests have suffered from the tendency of mankind to spin theories out of cobwebs, and to go to the realm of investigation with their theories ready made. Most of the difficulties in theology have arisen out of preconceived theories, which their authors have sought to uphold, when framed, out of the Book. Bee-keeping has suffered in the same way. People have gone to the hive to get evidence in support of a favorite theory, instead of going to it without any theory, to gather facts as the material out of which to manufacture theory. A certain member of the British Parliament was frank enough to confess that he trusted to his memory for wit, and to his imagination for facts. Not a few draw on the imagination for facts, who have not self-knowledge enough to be aware of it, nor candour enough to own up about it. Theories require the utmost deliberation and care in construction, and, like Italian queens, are not worth much until well tested.

When a theory is adopted on what are considered sufficient grounds, it should be advocated with modesty and forbearance. Haste in forming a theory is usually followed by dogmatism in contending for it. A man who is patient in constructing a theory, will be patient in urging it upon the acceptance of others. Slow in espousing it himself, he will not be surprised to find many who are slow as himself, if not slower. Impatience to get credit and honor from those to whom a theory is announced, not unfrequently betrays theorists into unseemly behaviour. Some espouse theories as they do matrimonal partners, and afterwards illustrate the proverb about marrying in haste, and repenting at leisure.

Theories, if well-founded, will bear the test of criticism, and the sensitiveness of many to a dissenting word, argues no great amount of confidence in their own views. What is based on fact, can never be overthrown. It is like the "tall cliff" immortalized by a great poet :—

> "Though round its base the rolling clouds are spread
> Eternal sunshine settles on its head."

We commend these general, and as we think, timely remarks, on "theories and their advocacy," to all and sundry who write for the American Bee Journal.

Bees and Grapes.

It has often been insinuated by the ignorant that bees injure fruit; and some time ago, a benighted little village in New England undertook to expel all bees from its limits because of their supposed depredations. An American naturalist of some note, not very long since brought this accusation against the bees, and recommended fruit-growers to protect themselves against these industrious insects by the use of certain recipes that would attract and destroy them. But the great majority of fruit-growers are too keenly alive to their own interests to take any steps toward the suppression of bees or bee-keeping. It is pretty certain that by collecting and distributing the pollen of plants, the bees

accomplish fructification in many cases where otherwise it would not take place. There is no conclusive evidence to sustain the suspicion of their injuring fruit. Ch. Dadant, who is now settled in Illinois, but who for many years kept bees near the hills of Burgundy, says in a recent number of the AMERICAN BEE JOURNAL, It is well established that bees are unable to cut the skin of grapes. In order to ascertain the fact, the most juicy and sugared grapes, pears, sweet cherries, plums, apricots, etc., were put inside the hives; never have the bees attacked them if they were not previously scratched. The experiment was repeatedly made; it was discovered also that the first cutting was made by a kind of wasp, or by birds, or caused by the rain falling when the fruit was ripe.

A Wisconsin bee-keeper also writing to our journal says, "Last fall I took a bunch of Delaware grapes (the most tender variety we have here,) and put it on a hive, directly over the bees, and watched proceedings; but not a single berry was opened; then I broke a few berries, upon which they went immediately to work, sucking them dry, thus showing that something besides bees does the mischief."

The idea is entertained by many intelligent bee-keepers, that where the bees have been suspected, with any air of probability, of doing injury to grapes, the skin of the fruit must first have been punctured by some other insect, thus affording the bees access to the pulp. On this point a correspondant of the *Rural New Yorker*, writing from Marcellus, N. Y., says:—"There is much complaint made in the papers of bees eating grapes in different localities, which I doubt not is true: but I wish some scientific man would give a close examination, even with a magnifying glass, and see whether some insect has not been gnawing the skin in the night; for we know that the corn worm comes at night, eats off the blade, and the snail eats holes in the young tobacco leaf and is not seen in the day time; and there may be insects flying in the night, like the lightning bug, that gnaw the grapes. Now, in this section almost every house has a grape vine, and there are bees kept in many places all over town and this village; and I have kept bees and grapes over 30 years, but have never heard the first complaint. I wish there could be some close examination made."

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents each for, to complete them.

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Vol. 1. we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

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The postage on this paper is only twelve cents a year, if paid quarterly or yearly in advance at the post-office where received. We prepay postage to Canada, and require twelve cents extra.

When a subscriber sends money in payment for the AMERICAN BEE JOURNAL, he should state to what time he thinks it pays, so that we can compare it with our books, and thus prevent mistakes.

Voices from among the Hives.

O. L. Ballard, of Malone, N. Y., writes: —"Most of the bee-keepers in this vicinity have lost a large proportion of their colonies since setting them out this spring; but by feeding mine a little they have increased in numbers, although they have not swarmed out as yet."

Wm. Perry, Sr., Lynnville, Tenn., writes: —"Our honey harvest has been very tight the present season. There has not been much increase in stocks. The very wet spring, followed by a drought of some five weeks, has proved quite unfavorable for honey gathering."

E. Gallup, Orchard, Iowa, writes:—"The bees are swarming and doing finely. The spring was cold and backward, which makes them late in swarming, but the flowers all produce honey this season. They are now to work on Alsike and white clover. The basswood or linn is going to blossom very profusely; so look out for honey."

J. H. Cristie, Dyersburg, Tenn., writes: —"My bees are doing well. The winter was mild, and the spring opened early, but cold and wet. Bees could gather nothing to make honey of, and many starved to death. All were put back at least a month. The poplar is our best honey food, and it is in bloom now. We have besides this, holly, maple, elm, and black gum. My bees are all of the black kind. I intend to Italianize them soon."

John Barfoot, Wellsville, Mo, writes:—"So far this has been a good bee season. Honey dew commenced here May 22nd and it has continued up to this time, with the exception of two days while it rained. We have also had our usual supply of bee pasture from flowers. We are in the midst of swarming. The Messrs. Baldwins, since their advent here, have infused new life into bee-keeping. Hives have increased 5 pounds in a single day here lately.

L. Burdick, Galesburg, Mich., writes:—"Our bees wintered very well last winter. But a great many were lost during the month of April, who flew out and died apparently without disease, the queens living till about the last. They laid some eggs but did not hatch, for the want of bees to take care of them. The bees might have died with old age. Any information on this subject would be thankfully received. The season here has been good for bees, up to this date.

Samuel Luethi, Gnadenhutten, Ohio, writes:—"Bees wintered well in this locality. One of our Italian colonies treated to horse manure as recommended by "Novice." did not seem to derive much benefit from the process. The manure was put around the hive up to the honey board on three sides, and the front was protected by straw and a board placed in front of it. The prospect for surplus honey is poor, owing to the long continued dry weather.

Frank Searles, Hadley, Ill., writes:—"I wintered 123 swarms and lost but one. I have only lost 8 swarms in the last three years. The weather for the past ten days has been very unfavorable—clouds, rain, and wind. The fields are white with clover, and my hives are full of bees. All they want now is fine weather. Swarms that I did not think good enough to sell 15 days ago are now in first-class condition. They have done finely on the locust trees, for the past few days."

C. H. English, Sullivan, Mo., writes:—"We have a good bee range here. The natural timber is very good. Sugar trees, soft maple, walnut, gum, and linn are among the best. They also make honey from a vine called "poison vine," wild grapes, etc. I intend hedging my farm with a kind of hawthorn, resembling sugar haws. It blooms in June. Bees are very fond of it; and it makes a good hedge, and the berries are good for hogs. Red raspberry is the best honey plant. Its leaves are dripping with honey dew. My hives are full of honey, some in boxes. I have had several swarms. I use black bees. Some day I will give you my experience."

M. Quinby, St. Johnsville, N. Y., writes: —"When I first read on page 106, the heading 'A new smoker' I thought 'a contrivance for smoking bees' had reference to the way smoke was applied. Instead of a new way of applying smoke, it seems that only the material that he recommends to make it of is new. He concludes by saying: 'You can blow the smoke where you want it, it leaves no bad effect on the bees.' Are we to infer from this that some kinds of smoke do leave a 'bad effect?' If so, I would like to enquire what kind does it, and in what way it does it. All bee-keepers ought to be interested, as our success in bee management depends on the judicious use of smoke. If any kind is detrimental, it is important that I know it, as I am just now recommending an indiscriminate use of what is most convenient, and am unable to detect any difference. When 'corn silk rolled in paper' is most convenient, I would advise using it. How to apply smoke conveniently, and effectually, without blowing the breath away, has been a long study with me. Any one that has a convenient method would confer a favor on the bee-keeping community, by making it public."

W. M. Kellogg, Oneida, Ill, writes:—"Bees are doing finely at present, filling their

hives with bees and honey; I have had to use the extractor to keep them from crowding the queens out of doors. Stocks in small hives are preparing to swarm, raising queens, drones, etc., while those with movable division boards, where we can give them plenty of empty comb, seem to be content with raising lots of brood and lugging in the honey for us to sling out. Have made some new stocks and soon will have some more. We are having plenty of rain, so that bees have all they want to do to tend to their knitting; but yesterday was so damp they could get no honey from the flowers, so they pitched into everything that had sweet to it, by thousands, and were so cross one couldn't touch them with a ten foot pole.

On page 142 Wm. Morris asks, 'are large hives less liable to be affected with dysentery than small ones?' With our bees that died off in the spring of '73, they did not get the dysentery till they were reduced to about a pint of bees, none of the stocks in large hives having it, till weak in bees, or the small hives either, for that matter. For my part I do not think it makes much difference in the size of the hive, if they have plenty of bees; and as to the cause of the disease here, we think it is to be laid to the long continued cold rains and winds, keeping the bees from breeding, and what few were left had to gorge themselves so with honey to keep up sufficient warmth, and then being confined to the hives, gave them the dysentery.

D. D. Palmer (page 143) speaks of the 'ingenious bent wire' that Mr. Dadant uses to secure frames at the bottom of the hive in shipping, but leaves us with our curiosity unsatisfied. Friend Palmer, can't you give us a description of it so we all can have the benefit of it? or is it a patented article? If it is, of course we'll have to pay for the use of it."

M. Nevins, Cheviot, Ohio, writes:—"My 34 stocks of Italians are doing finely. They have worked more freely on red clover during the past two weeks than I ever knew them to do before. One swarm, from which I took 4 frames of brood in March, April, and May, has now made 50 lbs. of comb honey in the small frames, and 50 lbs of extracted. This hive has been weighed every day since the 4th inst., and on 4 of these days has made 4 lbs. per day of comb honey, and almost entirely from red clover.

I see some inquiry is made through the different journals for a convenient plan for weighing. I have a fixture which is convenient. Take three strips of sawed stuff, 2 in. wide by 1¼ in. thick, (or round poles will do) and 8 or 9 ft. long. Shave the top of each so they will fit together when the lower ends are spread some 5 ft. apart. Fasten the top ends together with an iron bolt. Now you have a tripod. 4½ ft. from the foot fasten a cross piece from leg No. 1 to leg No. 2 of sufficient strength to bear the weight in the centre, of anything you desire to weigh. Across the centre of this cross piece attach a lever, letting the inside end project just far enough to reach past leg No. 3, fasten a cleat to rest the end of the lever on. Attach a ring to the lever about midway between the cross bar that supports the lever and leg No. 3. Take a piece of rope, tie the two ends together and you have it long enough to go under the hive double and come up on each side near the top of the hive. Tie a spreader to the rope on each side of the hive near the bottom to keep the rope sufficiently spread on the bottom of the hive. I use a leather strap over the top of the hive, and through the rope on each side of the hive to hook the steelyard into so that it can readily be adjusted by a buckle to the right length to just swing the hive clear, when the lever comes to a horizontal position and rests upon the cleat on leg No. 3. I frequently leave the hive suspended there from day to day. The outer end of the lever projects over the cross bar far enough to give sufficient leverage to raise the hive easily by bearing down on it. The ring on the lever is for the upper hook of the steelyard.

All bee-keepers will readily see the great advantage of weighing a sample hive every day so as to know just what calculation to make about supplying additional storage room etc. etc., without having to open and go through the hives, which is always an interruption to them when storing honey rapidly.

The above apparatus is a great convenience on a farm, and for many purposes aside from weighing bee hives. I once had a lot of 40 or 50 beeves on the farm, which I desired to slaughter. I made a tripod 12 ft. high with a light tackle-block attached at the top, and a pole accross two of the standards near the foot with a crank on one end for a windlass. Shoot down a steer in the lot or any place where you could have a fair swing in the air, set the tripod over it and with one hand I could lift it into any desired position for dressing, or, raise it clear from the ground. When dressed it could be run up out of the way of dogs, to hang over night, or a wagon backed under to take it away. This apparatus was made of tamarac poles and was so light that a man could easily carry the whole rig half a mile on his shoulder.

My hives all stand on little posts driven in the ground, one at each corner of the hive. Old broom handles, sawed off 8 or 10 in. long are sufficient if the ground is hard. Let the hive come within 2 or 3 in. of the ground. This plan affords no harbor for ants, spiders, rotton-wood, lice, etc., and is very nice. I bank up in the front of my hives with coal ashes, even with the alighting board, to keep the grass and weeds down and give the bees a smooth and easy passage.

American Bee Journal

THOMAS G. NEWMAN, MANAGER.

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We have received a Postal Order from Shanon, Wis., in an envelope containing nothing else. We do not know from whom it came, nor for what it was intended. Will some one inform us?

The Rev. W. F. Clarke has resigned the Rectorship of the Canada School of Agriculture. Not finding it compatible with his other duties, he refused the honor.

Honey Markets.

CHICAGO.—Choice white comb honey, 28@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Honey has been coming in moderately for the past few weeks. Honey from fruit blossoms, this spring, is abundant. The harvest of white clover honey was duly inaugurated two weeks since, in this section. The quality is excellent.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO.—Quotations from Sterns and Smith, 423 Front st.

We received the first new honey about June 1st; the season is four weeks late in honey. The quality, so far this season, is superior. From information derived from all sources, the yield this season will be very large, and we shall have to look to the East for a market. Comb in wood, new, and well filled, 20 @ 30 cents ℔ lb; in tins, 2 lb tins, comb, $3.50 @ 3.75 per doz. But little new strained has yet come in, and dealers are only buying small lots.

Special Notice.

During the past ten months of "Panic," the receipts of the AMERICAN BEE JOURNAL have been very light. We have cheerfully "carried" thousands of our subscribers, and now trust that they, will respond as soon as possible, as we have obligations that must be met *at once*. Many subscriptions ran out with the JUNE number, and now we hope to hear from them, as well as from those that expired before that time.

We shall continue to send the AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order for a discontinuance, and we hope those who not wish to continue their subscriptions will notify us by letter or Postal card, either when they expire or before that time.

We have purchased of Geo. S. Wagner Esq. and the Rev. W. F. Clarke all the back subscription and advertising accounts,

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CEDAR RAPIDS, AUGUST, 1874. No. 8.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Bees, Birds and Grapes.

What the Greeks or Romans may have said or written on this question fails to come down to us in history. But we find the bee and the grape side by side, occupying the most delightful portions of our globe for ages, without threat of deadly poisons or other violence, till you come to America in the year of our Lord, 1873.

Over twenty years have I cultivated both bees and grapes, consequently my affections are about equally divided between the two. On a lot of some acres I have many of the choice fruits of the climate, with grapes in profusion.

My colonies, say 60 to 80 in number are located under Apple, Peach, Pear, Quince, Cherry, Grape and Plum trees, where contact occurs necessarially every season. Being a person of leisure, my opportunities have been good to closely inspect this question. I too like Prof. Riley and hundreds of horticulturists and apiarists have seen bees cut into small fruits, especially grapes and peaches.

I too with all my family have had our fingers cruelly stung in gathering those fruits when ripe. In years departed I have witnessed my bees swarming by the thousands on my trellises, apparently threatening the entire destruction of my grape crop, to say nothing of my pears and peaches. My neighbors too, both learned and unlearned, give their unimpeachable testimony to the same state of facts among themselves.

Surely this ought to be sufficient to convict every bee in the land, and, as the lawyers say, we might here rest the case. Now I have summed up all I care about on this side of the question, and am free to say, there is not any evidence touching the vital point at issue. Who cares what bees eat in general. All winged insects live on something. Every barefooted boy in the land can testify to bees extracting the juice from pomice laying around a cider mill, peaches, pears or grapes that have been maimed, crushed, eaten into or broken open by some other agency. But not one living soul of all the parties to this question have seen with the physical eye, a honey bee at any time or under any circumstances pounce upon a bunch of grapes or other fruit untouched by birds or insects, perfect in all respects; and with its mandibles eat through the skin or rind and open up its contents to a free banquet! And I challenge all parties interested in this controversy to come forward through the columns of this journal, not with circumstantial or superficial evidence, but with facts bearing directly upon this vital point.

The season of 1872 visited a fearful drouth on this portion of Ohio, and the bees and birds alike were hard up for provinder and made sad havoc with our grapes. Some citizens counted their loss as high as twenty bushels and vigorously pressed the Village Council to expel the bees by ordinance beyond corporation limits. Acting on the spur of the moment they actually passed an ordinance to its second reading (repeating the Wenham farce) imposing a heavy penalty for keeping bees within said limits. In the mean time I had not been idle, but applying tests to satisfy our people of their error, I invited them to come upon my grounds and see for themselves the Robbins, Red-birds and Orioles that lay dead under my vines and fruit trees with grape seeds in their stomachs and mouths, as I had often shot them in the act of biting open the grapes as they hung on the vines.

Our bees were undergoing a test also—three hives had as many bunches of ripe concord grapes tacked to their fronts—that passing out and in, contact was unavoidable; on the fifth day they remained untouched save the bees hunting through and over them to find an open berry. Then I opened with my knife say a quarter of the berries on each bunch and true to their instinct they began taking up the juice before I completed the job. In about forty-eight hours they had taken up all the juice and

and pulp I had offered them, and four days later, when I removed the bunches, not a single berry had they opened, but were busily inspecting those that remained, doubtless waiting for some stronger power to lead in the business.

The bald hornet, both black and yellow, are experts in cutting into peaches, pears, grapes, &c. In handling fruits, I have seen them cut through the rind of ripe and tender peaches with great facility, thus leading the way for the more feeble insects to follow and take up their contents, and therein lies the great mistake with the hundreds of complainents. Birds and hornets are few indeed when compared with bees, and whilst they glide along opening up and inviting to the feast, are rarely noticed. The honest bees, tarries to appropriate for the supply of his home, and is seen by the million and condemned as thieves and burglars.

The most persistent and clamorous of our citizens, who had threatened bee-men with the law and our bees with strychnine were the first to come forward and thank me for what I had placed before their eyes, as the true solution to the whole question; for all who took the trouble, accomplished exactly the same results by the same means that I had used, and no further complaints have reached my ears to this day.

Would it not be much more commendable for horticulturists as well as scientists to keep their eyes open to facts as they exist, than to make and publish to the world their sweeping declarations, founded in error and so prolific in mischief, wherever they take root.

To Prof's. Dadant, Cook and Krusehke: let us cordially thank you for the light you have shed upon this important controversy and in the mean time keep your powder dry.

Athens, Ohio. J. W. BAYARD.

For the American Bee Journal.

Handling a Delicate Subject.

In writing to our friend, Prof. Cook, we did not intend to convey the idea that Dr. Hamlin *never* used smoke in handling his bees, as the Professor has it stated in his July article to beginners; but we meant to say that he objected very strongly to its general use and only resorted to it when absolutely obliged to do so. He was of the opinion that smoke of any sort, though it quieted the bees for a time, left them in a very irritable condition from which they would not recover for some time. He imagined that from handling his bees for a long time with the use of but little smoke, he had developed in them an extraordinary peaceful disposition. Then, too, he thought the smoke stopped the labor of every bee in the hive and left them filled with honey, idle, and sluggish for some time after its use. On opening hives in the spring without using smoke, with the greatest possible care and when the bees were gathering honey, we frequently found that the result would be a hasty retreat and an arming with a good smudge. Simply the odor of the person while standing on the leeward side of the hive often aroused them. Surely the labor of the whole hive was interrupted. By using, as has always been our custom, just a trifle of smoke on first opening the hive and then placing it near at hand so the fumes would scent the air about the hive, those same cross bees are quite easily handled, while the danger of arousing the peaceable ones is wholly avoided. The smoke seems to neutralize the scent of the poison floating in the air as the hive is opened. When properly used we have never seen any ill-effect arising from the application of a small amount of smoke. Some stocks will require more than others on the start to subdue them, and occasionally one will scarcely ever need it, yet it is indispensible at times. The greater rapidity in the handling of stocks with smoke, is a strong point in favor of its use, even if it does not leave the bees with as peaceable a disposition. We think bees once irritated will remember the occurrence longer than they would a thorough smoking, and that, by the timely use of a little smoke, it is much better to prevent their getting once aroused than to attempt the handling of them without the smoke when there is danger of their becoming angered. In proof that the smoke does not induce an ugly disposition I would state that those same colonies that were cross in the spring on the first opening of the hives at a time when they were gathering honey rapidly, can now be handled on warm days with little or no smoke and but little danger; yet they are not gathering a drop of honey, but are persistently endeavoring to take the little sweetness accumulated by some of their less fortunate neighbors. When the smoke is used in the manner described they *always* observe a proper decorum realizing that their master is at hand.

We class ourselves as "a beginner," (Northern winters have necessitated our beginning several times,) so Prof. Cook's articles apply to us; and, though we spent some time studying bee-culture under the Professor's direction and are willing in most matters pertaining to the subject to follow his excellent advice, yet in the third paragraph of his July article he has some advice which for the present at least, we shall have to put along with the advice on queen clipping,—as a total loss upon us. He says to "all who are in the bonds of single bitterness, immediately procure a

brave intelligent helpmeet." But really after writing the sentence we have come to the conclusion that it does not include us or else we are not capable of comprehending our own condition. We never became aware that we were "in the bonds of single bitterness," but always thought it *freedom*; then, too, we have always been accustomed to consider the occupation of the apiarist as a *sweet* one so we should label the condition which the Professor evidently means to describe as *the freedom of single sweetness*. As far as bravery and intelligence are concerned we presume there are many young ladies both North and South that would answer to that description, yet were we not afraid of a "severe trouncing" (see Sept. Oct. and Nov. No's. of *Bee-keepers' Magazine for* '73,) we should be inclined to say that most of them would take but little interest in the cultivation of the "little busy bee" or as they sometimes term them," miserable stinging things." However we should do injustice did we not mention that there is one Southern Miss who surely takes an interest in bee-culture, else she would not have ridden sixteen miles horseback through the rain and on the Fourth of July to receive two Italian queens.

We well know that Mrs. C. is an excellenc helpmeet, yet we never remember seeing her in the apiary. Taking the views expressed in the above statement of the case we think the Professor ought to try and have the beginner think himself sufficiently blessed if he but procure a companion who would prove a "brave intelligent helpmeet" outside of the apiary. Besides when too many "bee-folks" are around there is great danger of one's getting "bee on the brain," —a very bad complaint which in most cases narrows the mind down to one thing, and confines its sphere of action, thus making of what might be a *man*, a mere *machine*.

Edgefield Junction, Tenn. F. B.

For the American Bee Journal.

A Lady's Experience.

I think as I am considerably indebted to yourself and the *Gleanings* for the degree of success I have been favored with. I will give you an account of the experience I have had, since the fall of 1872. I bought, at that time, 2 colonies of bees in Langstroth hives, for which I paid $20. I increased them last summer to 4, and in the fall united my 2 nuclei, thus I wintered out of doors 3 stocks on natural stores and fed a little sugar syrup; I had no surplus honey, the season being poor. To say I was afraid of my bees would hardly express it. I almost laugh now when looking back over the last summer, to think how I have overcome many difficulties, and I almost dread to think of those nights of almost hysterical excitement; how the bees seemed to swarm around me as soon as I closed my eyes to sleep, and nothing but the continued angry buzz (as I imagined) greeted my ears day and night, and then those horrid stings. I had to go to our physician 2 or 3 times. (Now please do not laugh it is not polite you know, especially when one suspects you have been in a similar position yourself.) I asked him whether I had not better give up those bees entirely. I had not been well and he thought I needed something to draw my attention out of that gloomy state into which I had sunk. So I attended to the millers, around the blocks, and clipped the grass in front of the hives and watched them whenever I could. If work kept me in the house all day I often stole glances through the window, or when I rested and I read Longstroth on the Honey Bee in the evenings, (I did not know anything about bee journals then,) when I made these artificial swarms how I trembled, and how heated I got, and the little rascals seemed to know I was afraid of them. They came out all right last spring. I fed them a little, and opened the spread, as Mr. Doolittle recommended. You see I had the American Bee Journal to study then, it has been worth very much to me. I have an acquaintance who lives about 3 miles from us, who owns about 100 colonies; he has kindly instructed me from time to time; he has not used the extractor yet, but I presume he will soon.

Last March I bought 5 stocks in box hives. I transferred them very successfully. Some were in fine order; one was destitute of brood and honey, I think. I bought them just in time to save them. I gave them brood and honey from some of the other hives, and now they are my best stock, except one. I drummed them out and opened the side of the hive, on which the combs lay flat, with a cold chisel, borrowed from my husband's mowing machine. When I asked for it, he laughed and consented to lend it if I would return it to it's place, and remarked that he supposed I would have all of his tools about those hives if he did not look after them. Of course it was duly returned, I do not like to hear men grumble especially when they are in the house. The first week in May I visited A. I. Root & Co., of Medina; the day was very warm but little daughter Edith and myself had a very pleasant time. Mr. Root certainly is a gentlemen, and Miss Andrews took especial pains to show us their apiary, and I learned what I could. I fear I troubled them with questions, but as some Americans I have heard say, "I wanted to know." Mr. R. has a pleasant home, and a very nice family; especially

little blue eyes. We have a little fair-haired girl with a sunny smile, who the other day got a sting while adjusting the blocks as she had seen me do. She kept me awake that night, and the next morning Mr. M. remarked my wearied appearance, and said, "Wife. I do not think it pays to have that baby stung like that ; I fear your bees are a poor investment." I had my own private thoughts and again bathed my baby's sting with amonia, and said nothing. Poor darling, she often puts that hand for me to kiss, and tries to tell me about it. Sir, I thought I was transferring bees ; but I see I have wandered far away. I will tell you the result of those bees at some other time.

Elyria, Ohio. Mrs. W. M.

Cause of Bee Swarming and Migrating to the Forests.

The period of incubation by the queen commences early in the spring. It is rapidly generative, and when the honey season approaches, the cells are well stocked with eggs, larvæ, &c. At this time, the working bees sally forth to labor day after day with untiring assiduity to stock their homes with a winter's supply of provender. During the busy season they intimate a negligence toward the royal blood by packing cell after cell with their wealth and rapidly contracting the queens domains—the cells for her deposits. The breeding space of the hive thus becomes rapidly narrowed, and, finally, the queen, having no empty cells, locates in some remote place, generally on or near the edge of a comb, and continues her deposits. The latter, on the edge of the comb, are eaten by the working bees. Thus situated, the royal influence of the queen is limited, and unexerted. The wealth of the community has unsettled the kingdom. The entire swarm seems to be dis-loyal. It presents the condition of a nation which has lost its sovereign. The working bees, powerful in wealth, construct royal residences or "queen-cells," in which they rear queens ; and to be certain lest the royal blood should become extinct. The royal family consists of many queens, heirs expectant, and when these youthful queens are hatched, the old queen, jealous of her regal honors, undertakes to destroy her rival queens. Unable to succeed, as an army of workers surround and defend the young queens, the old queen abdicates her throne, and sallies forth from her late dominions, accompanied by her loyal subjects, old and young, whirling and buzzing in dire confusing. After all of the disaffected have left the hive they settle with the queen upon a shrub or bush. This is what constitutes "swarming."

In swarming, it is believed that a regular and permanent organization is not entirely affected until after the departure of the swarm from the parent hive to cluster in a body, not unlike a mass convention. Immediately on swarming, the greatest tumult and confusion ensues throughout the ranks, at the same time manifesting a desire to alight sufficiently far from their late abode, so as not to be interrupted or annoyed while completing their organization and arrangements for their prospective home. Here we notice a striking peculiarity. All the bees that are capable of taking wing, young, middle aged and aged (except those that are employed in nursing the young larvæ, brooding over the chrysalis, or are out in the fields,) accompany the swarm to seek their new habitation.

Here is wisdom and order created out of disorder and rebellion. The Author of all things has "most wisely" fixed their dispositions so as to prevent the overthrow of the old colony. A large number of bees are absent from the fields, amassing honey, at the time when the swarming takes place. These, no doubt, amid the unsettled condition of home affairs, would join the new colony and leave the parent home unprotected and defenceless. The combs would become despoiled and ravaged by the irruption of those little barbarians—the moth family; the infant queens would die from want of careful nursing ; the germ of another new colony—the larvæ and chrysalis—would be lost in the general wreck, without the protection afforded by these absentees, who, when they return, offer the necessary care to preserve the household with its interests.

When a new colony leaves the hive, and goes off without alighting on a shrub or bush, it is, as a general thing, those swarms which hang upon the outside of the hive. It is an unusual occurrence, that swarms which hang upon the outside of the hive leave until they have sent off ambassadors to select a suitable home for their future abode.

Now if bees are hived immediately after they have alighted, or before they have dispatched their agents to select a new tenement, they will not leave at all, if their new residence has been made agreeable, and clear of everything offensive to them, and sufficiently commodious. (For it is want of room that causes swarming.) Then, to secure the new swarm we recommend "artificial swarming."—*From Flander's Bee Book.*

Honey is never found in the second stomach of the bee, but only in the first. The latter contains only the Myme, being the digested or partially digested food, which passes into the intestines, and the final excreta there show that the food consists mainly of pollen or bee-bread.

For the American Bee Journal.

A Voice from Pennsylvania.

In writing for the JOURNAL, I wish more would give their experience in bee-keeping, whether good or bad, that others might profit thereby; for, as I understand it, the object of the paper is to give practical information, and not to dispute over differences of opinion, until bad blood is aroused among those who should be the best of friends. I believe there are many successful bee-keepers who could give valuable information; but I fear the great fault of humanity—selfishness—may perhaps prevent them.

Bees have not done so well here this year on account of the late and cold spring; they wintered very well, but as the season advanced I found three hives did not increase, and upon examination I found them queenless, a misfortune which I see by the proceedings of the Michigan Convention; others have met with this winter to an unusual extent. The cause may be in my case the age of the queens, for I have not had a swarm for two years. My room for stands being limited, and honey my object, I have entirely prevented swarming, by giving plenty of room for surplus, early in the season and ease of access to the surplus frames or boxes. I never clip the queens wings, and my experience is that it is entirely unnecessary. My bees are of the black, or as some call them the gray variety. I expect shortly to receive several Italian queens to supply my loss, though I am not over sanguine of great improvement, for I see upon occasions that I have visited the fields to observe, that a good many gray bees are at work on the red clover, though I do not think bees like it very well, which is perhaps the greatest reason they do not visit it more, for it secretes honey in abundance; and if some can get it, others would try much harder than they do, if they liked it.

I use the Quinby hive as described in his work on the bee, enlarged to hold 14 frames 10x18 inches inside measurement, with two dividers, making the main hive, or winter house of 8 frames, with a dead air space on each side for winter protection. By removing the dividers six small 5 lb boxes or 18 small frames may be placed on each side for surplus, or if the extractor is used, the whole hive filled out with full sized frames. The bottom board under the main hive or 8 central frames is loose and joined to the side bottoms by rabbets. The side bottoms are nailed to the hive which makes it stronger, and keeps it always square and firm. The bottom board is held in place by 2 buttons underneath.

I find this form of bottom board much more convenient than in those that are all in one, as some of my first were made. Honey board made of 6 pieces—after Quinby. I had some with holes, but threw them away. Cap fits down over all, and rests on a loose moulding frame held in place by a screw or nail on each side, and may be left down to the bottom board for further protection in winter. Top the same as the Bay State hive and loose. Portico movable. It makes the hive easier to handle and lighter. When I commenced keeping bees, I tried wintering in the cellar and lost heavily, but since I leave them on their summer stands, I have not the slightest sign of dysentery, and loose very few. In wintering, I have never yet (except when I tried the cellar) given upward ventilation, and I am not sure that it is ever necessary; it is not the true principle of ventilation for buildings, then why for bees, besides why do they so carefully close up every upper hole and crevice—even to wire gauze put over the holes or openings in the honey board, even in hot weather? I believe the true principle—as I saw recommended some time since in the JOURNAL—would be to give plenty of open space below the combs, and not open the top and let the heat pass off.

The whole of my stock at this time are natural swarms and yet I have never had a swarm leave for the woods, or leave the hive I introduced them into, and yet I never even gave them a piece of comb to start on. I incline the hive slightly forward and mostly secure straight combs.

I am located in the rural part of the 24th ward of the city of Philadelphia, near George's Hill and the Park, and my bees have a fair field for pasture. They swarm here about the first and second week in June in favorable seasons, and I have had them as early as the 10th of May during the blossom season. Our best and largest yield of honey comes from the Tulip Poplar—the queen of honey-producing trees. It scarcely or never fails as white clover and basswood some times do. Its blossoms open successively for a long time, indeed without it bee-keeping here, I think, would be a failure, although there is considerable basswood and white clover. The leaves of the Poplar frequently yield largely of honey-dew in the fall. I would like to recommend them to Novice while he is planting an orchard of honey-producing trees. They grow quite as rapidly as basswood and are very handsome shade trees. Bees will not work on flour here in the spring; perhaps the reason is that they get natural pollen from the shade-tree maple, which is so very plenty, and blossoms when the weather is at all favorable as early as February.

Being near to a good market I prefer honey in the comb and find small frames 5¼ by 6½ inches in the clear, 7 or 8 to a case, and glass at each end, just the thing. They sell well, are convenient to handle, easy to

get the bees out of, when full; and when the honey season is over I join those filled and sealed ones together into full cases, and extract the honey from those partially filled, and they are worth pounds of honey the next season in starting the bees to work early on surplus, and thereby also prevent swarming. By having one full sized comb in the middle of the case, and small combs or pieces warmed and stuck fast to the frames I secure straight combs and a comb to each frame every time.

"Do bees injure fruit?" I see is now up for debate. I say, no! I have grapes hanging over and all around them, and so have also my neighbors. I have watched them closely and though I frequently see them on the ground at the broken and fallen grapes and occasionally a defective one on the vine I have never yet seen them open a sound grape. I have observed that they act in the presence of, or in going over sound grapes as if they had no idea of sweets being in their neighborhood, but break one open and they then soon go for it. Three years ago one of my neighbors did complain about my bees eating all his grapes, and he said he would not get any, the latter was really true, for he got very few, but it was because they were diseased, as he soon discovered, and nearly all fell off or rotted on the vine.

"Do king-birds eat worker bees?" is another question which has been disputed, but I say from personal knowledge that they do, and a great many of them too; while I am writing, I hear them up in the air on the top of some large maple trees which surrounds my neighbor's house. They are after bees, for I have shot a number of them and sometimes their craws were stuffed with bees, and on careful examination I found most of them to be worker bees. I have also watched them in the park, (which is full of them, as they are not allowed to be shot.) They are very tame there, and therefore I could get close to them. I have seen them leave a small twig of some ornamental shrub and dart down among the white clover, take a bee, and return to the twig, first beat the bee to death holding it in its bill, and then swallow it, and in a few minutes, go for another, I can assure you I felt very much like going gunning for king-birds about that time.

Artificial combs have been talked of in Conventions and in the JOURNAL. Has any one succeeded in getting bees to work and raise brood in them? If so, can any one inform me where to send for one, as I would like to see and try them. I have an idea that they might be made of vulcanite, such as is used in making artificial teeth, as it is put to almost every use now.

At the Centennial Fair to be held in Philadelphia in 1876 almost every interest that can be mentioned except bee-keeping has been referred to an appropriate committee. Why is this? There are several organized bodies of bee-keepers in the United States. I thought I would call attention to it through the JOURNAL, though I know there is some objection to having bees where there will be such a lage number of people and horses.

Philadelphia, Pa., J. R. WELLS.

P. S. I wish those who advertise would state price, and not wind up with *send for circular*, for bee-keeping time is often precious, queen raisers I fear sometimes forget that in filling orders. W.

For the American Bee Journal.

Fruit and Forest Culture in Nebraska.

At this time there is great interest attached to the subject of tree-planting on the prairies. It is a well settled point that the forests of the country—vast as these are—will not forever bear the enormous demands now made upon them. As trees grow rapidly in prairie soil, it is beyond doubt that the great plains will afford sites for some of the forests of the future. Not forests where for hundreds of miles there is nothing but trees; but forests, after the fashion of the old world—except that the main incident in their creation will not be to afford coverts for game—where woodland, arable and pasture alternate with each other. In Nebraska, the settler has special inducements to plant trees. The law of the State gives a bounty in the shape of remission of taxation for tree-planting; and, in four or five years, the farmer begins to reap his advantage in fuel grown upon his land, and in the fruit ripening in his orchard. The new timber law, also, will stimulate forest culture. This law, as amended by Congress during its present session, gives 160 acres of land to whosoever will plant forty acres to trees, and cultivate the same for eight years; and this without any condition as to residence, so that a homesteader or buyer of railroad land can, when there is Government land in his vicinity, have 160 acres as a gift, if he will plant one-quarter to one of the most profitable crops that can be put into the ground. Some time ago your correspondent was favored on this matter of tree-growing, with the experience of Mr. V. C. Uttley, of Nursery Hill, Otoe county, Nebraska, who has resided eleven years on a Nebraska farm, and who, before that, was a farmer in Ohio. He says that the fruit grower need have no fear in planting on the open prairie. Apple trees flourish on the highest bluffs, care being taken, by the planting of cottonwood as a wind-break, to shelter the orchard from the highest winds. Mr. Uttley has also found the black walnut adapted to Nebraska soil; and indeed, it is naturally adapted inasmuch as on the banks of our rivers and creeks

these trees grow luxuriently. As the result of experience, Mr. Uttley commends to the tree-planters in Nebraska: black walnut, soft maple, box-elder, poplar, cottonwood, honey locust, butternut, American and European larches and all evergreens. He has experimented with most kinds of trees; and his conclusion is that these are the best for the settler to plant—and to plant in the Spring. N. A. E.

For the American Bee Journal.

Novice's Answer.

Mr. Editor:—We should like to make a mild protest against the position in which our excellent correspondent, Mr. Gallup, places Novice in his article on page 164. We believe that we should go to work to rear queens in just about the same way that Mr. G. would, and cannot think that our readers have understood us as ever having advocated queen-rearing in the manner he mentions. That many who rear queens for sale, do. 'Tis needless for us to refer to where we have narrated on these pages our experiments in rearing queens with old bees and small clusters, and how they laid eggs only a week or two, &c., for our readers certainly remember. Please, Mr. Gallup, be a little more neighborly. Although we agree perfectly on queen-rearing, we fear we do not *quite* agree on hives.

As a great deal has been said about the Gallup hive as described on page 133, we would like to add our opinion, but it is certainly respectfully tendered, and given in all candor. As to the length of the hive we have nothing further to add than what we have said heretofore, but we cannot help feeling doubtful about the double casing, and air space; on the same page, mention is made of disastrous losses where double-cased hives were used, and our friend fed on sugar syrup too. Also, the case of Mr. Elwood, mentioned by Quinby, who lost bees by dysentery when fed on syrup, was in double-cased hives, or at least something to the same effect; and without going farther, we will only mention that our neighbors, Shaw & Son., put a good colony last fall in a hive or box with double walls, filled with sawdust on top, bottom and sides, and the walls were *eight* inches thick; they died with dysentery in its worst form very early in the winter. Double-walled hives have been advocated, patented, tried, and abandoned, by bee-keepers the world over from the veriest novice up to both Langstroth and Quinby for years past, but yet Mr. G's. plan may be a little different and it is well not to be too hasty. A colony that can cover 26 combs in February, certainly should be able to keep warm, independent of any aid from the sun in occasionly warming up the sides; but Mr. G. also mentions wintering a weak colony thus: Was this simply because bees frequently wintered well almost any way, or was it on account of the double-walls? Please Mr. G. tell us how these hives came through the spring. We cannot understand how it is, that the long hives only build worker comb with friend Gallup, when they build drone-comb almost every time with us, Medina bee-keepers, as in fact they do from all accounts we receive of them. One of the best bee-keepers in our country who uses the Gallup frames and has followed faithfully Mr. G's. excellent articles from the commencement—uses division boards constantly and would not give it up "no how;" but he cannot yet make comb in large colonies, and he has bees and brood on 20 or more Gallup frames in the long hives at this present time. Now although we have had our say, it may still be that the "New Idea Gallup Hive" will cure all the troubles in wintering which we *most sincerely* hope may be the case, for if somebody dont help, we really fear we shall forever be only a Novice.

P. S. We may be mistaken in saying that Quinby has abandoned double-walls for out-door wintering, if so we are sorry—no, we mean we beg pardon. While we think of it, does any one know that the Quinby hive without boxes is a veritable "New Idea," and although 'twas given to the public years ago, no one has ever even said "thank you."

If any one should find that glass for the outer walls of the hive secured all advantage from the sun and the dead air space too, remember we inserted it several years ago, but never tried it, like lots of other "blamed good ideas that our head is always 'chuck' full of." Our 16 colonies are now 31 and are bringing in basswood honey at an unprecedented rate. We have actually got almost a barrel on this 7th of July, 1874.

For the American Bee Journal.

Ants and Cockroaches.

In my correspondence and the bee journals there is much complaint against ants in bee hives, while there is nothing said of cockroaches. I have ants enough in my apiary; but the cockroaches are ten times as troublesome. The ant does not steal honey out of the hive, nor trouble the bees to my knowledge, but the cockroaches do both. All the ants want is a warm and dry place, for a nest on top of the honey board where they can enjoy the warmth of the bees below, and this is but a portion of the year, from May to October, while the cockroaches are present the year round. When you go to open a stand with an ants' nest on the honey board, it is no small job to brush them off, and when you raise the board a great many get inside and worry

the bees very much for a few minutes. Those who will take the trouble can keep the ants away by rubbing the outside of the hive with green elders or turpentine, or corperas, but none of this will keep the cockroaches away.

I find the cockroaches very thick in my apiary all summer, and in winter they are on top to enjoy the warmth of the bees, and inside of weak stands. That they do steal honey and live on it through the winter there is no questioning. In proof of their fondness for honey, I have often set out mugs and bowls with honey and water to drown moth flies at night, but the result would be about one hundred drowned cockroaches to one moth fly. Also the sweetened water that I use in introducing queens, wintering bees, etc. I can set cups nowhere in the apiary at night but the next morning it will be perfectly clean, and cockroaches found in it.

I have tried a great many devices to get rid of them, but all in vain. The best I ever tried was to go through the hives on a very cold day, and brush off the cockroaches to freeze which they readily do, but there is an evil in this plan; it disturbs the bees which should not be disturbed in cold frozen days. I have found a still better plan. I am in the poultry business, and have put a trio of Buff Cochins in the bee yard, and trained them to follow me around on warm days, and eat the cockroaches as fast as I can brush them off. This I find to be a good plan with no evil in it. I have never had a fowl eat a live bee. I have seen fowls go to the entrance of a hive and pick up a worm without disturbing the bees. I have also seen them go round a hive looking on the sides for moth flies, and I believe this is one reason why the moth is no trouble to me.

Lowell, Ky. R. M. Argo.

The most complete check upon robbing bees is to place a bunch of grass or wet hay over the entrance to the hive. The bees will find their way to the entrance to their own hive, the robbers will be caught by the sentinels in passing through the grass, and soon cease their pilfering.

Crystallization of Honey.—The action of light causes honey to crystallize. The difficulty may be obviated by keeping it in the dark, the change, it is said, being due to photographic action; and that the same agent that alters the molecular arrangement of iodide of silver on the excited collodian plate, causes the syrup honey to assume a crystallic form. It is to this action of light that scientists attribute the working of bees by night, and they are so careful to obscure the glass windows that are sometimes placed in their hives. Therefore, keep honey away from the light.

For the American Bee Journal.

Gallup Again.

Without doubt the Extractor has killed its thousands of stocks of bees. Now, Mr. Editor, publish the above without explanation, and, oh, horror of horrors, how Gallup would catch it. In many cases it has been used without the least particle of reason, and the bees have all died of dysentery, or that terrible bee disease. Perhaps we could illustrate better by telling of one of our mis-moves a number of years ago.—Soon after learning to drum out bees, we made a grand discovery. Mind that there were then no bee journals, or perhaps we, *Novice-like*, should have been caught giving instructions to others, when we knew nothing ourselves.

Right here, allow me to say for Novice's consolation, that we passed through the same ordeal that he is now going through. That is, we were very forward in giving our knowledge to others, before we had any to spare.

But to our story. We thought that we could drum out our bees in August, place them in a new hive, (we used the old box or chamber hive in those days,) and in 21 days the young bees would be hatched and we would drum them out also, and unite them with the others; they would then fill the hive and winter, and I could have the old stores, etc. This was a wonderful discovery and I, Novice-like, spread the news of the discovery far and near. But by the month of February these bees had a terrible disease; in fact, they all died of dysentery, (fine stocks). They had honey enough, but it was made or gathered too late in the season, consequently was not properly evaporated or matured, and the result as stated above.

Now, is it not a fact that many, in order to get a large yield of honey, extract too late in the season? They have the necessary amount in weight but not in quality. You will recollect of one person telling in the back numbers of extracting late in the fall, and their filling up and that all died with dysentery. That person requested some one to give the reason why they died, and we told him he had given the reason himself, etc. Now, if we winter bees on honey we want that honey of good quality and made in the proper season, and when the bees are raising brood rapidly, and have large quantities of bees of the right age to properly manufacture or evaporate it.

Here is another question for our consideration. The two-story hive has been lauded to the skies by Novice, when practice and experience has taught us and others that it is entirely in the wrong form, as the bees are not able to properly evaporate

their honey in cool weather and raise brood as rapidly and abundantly as they ought to in a hive of the proper form. In the "New Idea" form we have the brood nest always warm, consequently breeding can be carried on rapidly, and honey stored at the same time, without the animal warmth escaping into an upper story and away from the brood nest. Now, if we extract all the honey on the 15th of August in our climate except from a few central combs in the brood nest, we have room enough for the bees to breed and store from 80 to 150 lbs of honey without any more disturbance for the season. This honey we leave in the hive until the bees begin to gather rapidly the following season, and it is stored where it is convenient for the bees to get at and still does not keep the brood nest cool or take away one particle of warmth from the brood nest. The consequence is that we have no feeding to do at any season of the year, for it is a well-established fact that a strong powerful stock of bees with abundance of store do not need any stimulation to induce them to breed early enough for all practical purposes.

Now, here is another consideration. A neighbor of mine uses box hives 14 inches high and 18 or 20 inches square, and his bees have not died or had the dysentery while the neighbors' bees have died by the thousands; he winters on summer stands. My impression is that the injudicious use of the extractor, two-story and small standard hives has killed thousands and thousands of stocks of bees. Why did not my bees have the terrible disease that has been so prevalent all over the country? There has been other causes besides the injudicious use of the extractor to kill the bees. Years ago we lost heavily at different times and at that time we were not willing to attribute our losses to our own ignorance, but it was a fact nevertheless. Whose advice is the best—the advice of those who fail, or that of those who succeed. Let the "Novices" decide for themselves.

Yours truly,

Orchard, Iowa. GALLUP.

For the American Bee Journal.

Gallup and Queen Rearing.

Don't set it down too positively, friend Gullup, that "abundance" of food of the right kind and "abundance" of warmth are *all* the requisites of successful queen rearing, simply because you don't *see* other conditions present when a full colony of bees are raising queens at will. We should remember that a colony of bees are a whole —they are one individual, the same as a swarm of cords and nerves that form the human body are one, except they are seperable for a short time. Taking this for a basis, is not the whole colony the parent of the queen as well as all the offspring? We all know that animal magnetism is the essence of animal life, and that parents greatly endowed with this life-giving principle will produce the strongest offspring, other things being equal. Now, would it not be natural to suppose that a full colony of bees would be sure to produce the best queens. I believe the best queens we get are those reared in cases of supercecedure when the *whole* colony remains together till the *hatching* of the queen, at least.

"Novice" says, on page 53 of *Gleanings* for May, that, "to be sure many will say she can't lay eggs, and brood can't be reared without more than eighty-two bees.—But why? Ans. A lack of "animal magnetism." Now, friend Gallup, don't accuse us of having been only six years in the business; for we see you criticise Mr. Quinby who has been engaged in apiculture much longer than you, and has had no "big farm" to take his attention either. I am no stickles for old methods and systems, nor do I believe that queens reared at will of the colony are as good as those properly reared at the will of the apiarian. I think I can show that prolificness in the mother-bee, beyond a certain limit, is of no value. The *quality* of the bees in our apiary is what we need, and not a great number *from one queen*, or a few queens.

Apiarians have dreaded the swarming impulses of their apiaries worse than the moth, and this I believe has been owing to a limited knowledge of the science. We have known how to take a profitable advantage of the powers of bees, so long as this impulse did not interfere, but when it did, we were left in the dark and our plans thwarted. When we understand how to *use* this impulse to the best advantage, we shall foster and encourage it. Then shall we appreciate the Italian bee in its broadest sense.

Now a word for "Novice." No apiarian has done more for me than he. I look upon the changes of his mind, we hear so much about, as evidences of his progressive nature. The above is simply *our* views. Let the watch-word be "onward" throughout our apiarian lines, and hence let us speak our minds freely, not for spite, but for the advancement of our pet science, and let us change our minds *publicly*, as often as we do privately, which will be often if we observe closely and experiment largely. Convictions do not come at will but are always forced upon us.

Dowagiac, Mich. JAMES HEDDON.

The bees throughout the world, as known collectively to the richest cabinets, number about two thousand species.

For the American Bee Journal.

Our Honey Markets.

Mr. Editor :—I wish to ask through the Journal whether other apiarians, who ship honey to any amount, have any difficulty in getting returns. I have had considerable, and it is only because I feel it a duty due to my fellow bee-keepers that I now make public several transactions with honey merchants. For over a year there has been an advertisement in the American Bee Journal of Baumeister & Co., wanting 10,000 lbs. of extracted honey. In answer to that advertisement I offered to buy them honey, and have their reply stating what they would pay and what commission they would give for buying. I bought considerable, and with some of the product of my own apiary, collected about six barrels, and wrote them to that effect, stating the quality of each barrel whether basswood, clover, mixed or fall honey. By fall honey I mean that collected principally from bone-set, buckwheat, fall astor, butter-weed, (or as some call it, fire-weed,) golden rod and a number of other honey plants of minor importance, all blooming at so nearly the same time as to render it difficult to say which flavor predominates in taking a sample from a barrel. At the time I wrote I also said that I had had an offer of 15 cents per pound for it in the warehouse but as I had written to them previous about it, they had the right to the first choice, and if they wished to take it at that price I would send it, and in reply was ordered to send it on. But upon their receiving it they wrote saying that the honey was not as represented. In marking the barrels I did not rely entirely on my own judgement but on the judgement of two other apiarians, to whom I can refer ; but the trouble came afterwards. I looked for money but none come. After waiting a month or two I went to Chicago to see about it and found they had sent $200 in a letter addressed with wrong initials. That being made clear and satisfactory, they faithfully promised to send me $100 the following week, giving also a note for $150 payable in one month, and $20 in cash. The honey amounted to $470. Instead of the $100, only $50 came and that two weeks late. The note was paid on time ; but the $50 they now refuse to pay, saying they will only give $25 ; and it is three week since they offered that and I accepted it, but still they do not even send that.

I have given a rather lengthy account of this one transaction, as I would like to know if any others have had business with this firm, and whether they do business generally in that style.

I also sent a bill of honey to J. W. Winder of Cincinnati, amounting to $160 ; he complained of nothing but "panicky times." When the money was due I received $75 from him, but for the last few months cannot hear a word.

I wrote to the Chicago Honey House, 360 Wabash Avenue, asking what they would give for fall honey, and stated that I had a barrel (I use 500 lb barrels) to dispose of. They offered me 15 cents, if clear. I shipped it, saying it was candied, and now they do not want it at all.

Who are the staunch men to whom we can ship honey and feel sure of having speedy returns. We can better afford to sell for 13 cents cash, than wait six months at 15 cents, not knowing whether it will ever come.

Wm. W. Bird

Ohio.

For the American Bee Journal.

Our Opinion of Artificial Queens.

Dear Journal ;—Methinks your contribution from S. W., Mo., is far and few between. Last fall, I predicted that many black bees in log gums would starve. So they did. Mine (Italians) all wintered, and have made some surplus. I like Gallup's article in the July No., page 164, on artificial queens, and commend it to beginners in bee-keeping. I would like to have the line of distinction between natural and artificial queens drawn upon a little different ground. I think natural queens are those produced by natural swarming and none others. Queens that are produced from any and all other causes are artificial.

If we take the queen away from a strong colony of bees in warm weather, when they are getting plenty of stores from the field and have bees in all stages of existence, from the egg up to the field workers, we are apt to raise good prolific, well-colored queens, large size and long lived ; but they should know no scarcity of food. If they need it, they should be fed daily the first eight days. Such queens as these we call artificial. Gallup calls them natural. Such queens as Gallup calls artificial, I do not take any stock in. In fact I do not have any confidence in any of those low-priced queens, and I do not believe the expert bee-keeper can afford to raise good queens (or what we call good queens) tested and warranted for $2 and $3. He would do better to devote his time and force for surplus honey. If those cheap queens are thrown on the market, it will have a great tendency to hinder the introduction of the Italian bee. I would much prefer paying $5 to $8 for a queen that was actually worth that, than to pay $2 for a cheap one and run the risk of being totally disappointed.

I beg leave to differ with Mr. Hazen, on

page 163 of the AMERICAN BEE JOURNAL, in regard to over stocking the field. Probably we in the West are differently situated in respect to bee pasturage to what they are in the East. When we have good honey flowers here, we never have bees enough to gather all, until rain or dry weather stops them from work, and we should always be prepared with our colonies, strong and large enough, in case of failure in flowers, to secrete honey; for such colonies will live when others will starve to death, and more especially if they be Italians. E. LISTON.

Cedar Co., Mo.

For the American Bee Journal.

Double Story Hives.

While bees are storing honey rapidly they should have more room within their hives than at other seasons. They need this both to prevent swarming and to secure from them the largest yield of honey. A given number of bees in one hive will store much more surplus honey, than the same number divided out into several hives. One of the most important rules to be observed, where surplus honey is the object, is *to keep the stocks strong.* The queen should have all the combs she can supply with eggs, and the workers as many as they can fill with honey. When the hive is in this condition, and the extractor is freely used, there is little if any danger of swarming, and an abundance of honey will be obtained.

Ordinary single-chamber hives contain about 2500 cubic inches of space. For medium sized stocks in ordinary seasons of the year, this will be room sufficient; but when the flowers are secreting honey profusely, and the queens are laying freely, twice that space should be given them.

Some intelligent bee-keepers hold that all this room should be furnished in a single-story hive. Their theory is that the workers will extend their construction of comb, and the queen her deposition of eggs, from the centre to either side, more readily than above or below, this may, or may not, be correct; I am not prepared to deny or affirm. But I have met with no difficulty in getting either the queens to lay or the workers to work in either upper or lower stories. I have had no experience with these large single-story hives. It seems to me, however, that whatever advantages they may have in other respects, they must be very cumbersome and unwieldy when it becomes necessary to move them. I should think it would also be quite difficult to contract the space within them to suit a small stock, or to winter even a full stock.

I have been using for several seasons a double-story hive, which has given me entire satisfaction; and before giving a brief description of it, I will say that I have no "axe to grind" in doing so, as there is no patent on it, so far as I am concerned and I keep none for sale. It consists of two boxes of the same size, set one on top of the other, each filled with ten frames. It is cheaply made and easily handled. The bees are wintered in the lower story. When they become strong in the spring, the second or upper story is set on, and to induce the bees to work above, without any delay, a few of the frames of brood are put in the upper box. The work their goes on in both stories as well as in one before. No honey brood or portion of any kind is used between the stories.

My hive is modified after the Langstroth, but, I think it is more convenient and less expensive. Each chamber or story is, by inside measure, 18 in. long, 14¼ wide and 10 deep. I have a ¾ in. portico in front of the lower story, but while this answers some good purposes it is not essential. I use poplar lumber and have it dressed to ⅞ of an inch in thickness. The sides are 10 in. wide, the front end 8½ and the rear end 9½. Both end pieces are set with their tops ⅜ of an inch below the upper edges of the sides. On these ends are suspended the frames. The upper piece of each frame is made first 19 in. long, the ends of which are beveled off to prevent interference with the ends of the upper story.

The upper story is made without bottom and fits nicely on the lower. Each end of it also drops down ⅜ of an inch below the edges of the sides. The inside lower edges of these ends are beveled off so as to fit down over the ends of the frames in the lower chamber. Strips are nailed accross the ends of both stories to strengthen them, and to furnish handles by which to lift them.

A cap or cover is made to fit either story, by nailing strips around and under the outer edges of a board about 18 in. wide and 22 long.

Anyone that can use a saw and hammer can make these hives, and I consider them as good as the best. I have never had a swarm of bees from one of these hives since I have been using them. This season I have had 26 in use, and have taken from them 110 gallons of honey. From one hive I have extracted 14 gallons, and taken about a dozen full cords of brood to build up weaker hives. They are all now in good condition, and well supplied with honey. I have already started 26 nucleus hives, and as fast as the queens become fertile, will build them up to ten frames. This will reduce all the double-hives down to single chambers. I do this now because the honey season is over with us. We may have a little in September, but cannot calculate with any certainty on that.

Charlestown, Ind. M. C. HESTER.

For the American Bee Journal.

My Management of Bees.

My apiary is built slightly facing the southeast, in order to have the morning sun. The bee stand is built upon a post, within the enclosure, with no connection with outside parts; this prevents a direct communication to the hive, by ants and other preying insects.

Ants are sometimes troublesome—to prevent them crawling up the post, a band of raw cotton, passed around the post of the stand, will make an effectual barrier.

Hives.—I have used the common hives for years, also, common hives with surplus honey-boxes; also, the Langstroth Moveable Comb, and many other popular hives; am now using the American Bee Hive, which I think superior to any that have come under my notice, and have been taking 100 per cent. more honey from them than from any other kind. In the spring, I overhaul all my swarms, cleaning out all litter that may have accumulated during the winter, and occasionally give them a little honey, which seems to encourage them to begin their labors; and if any surplus honey has been taken the previous fall I seldom replace the empty boxes till the swarming season is over—too much room prevents swarming.

Swarming.—Artificial swarming is much spoken of, and perhaps profitably practised, but I prefer natural swarming, for I am confident that it is much better for the parent stock as well as the young swarm. Swarming usually begins in May, about the middle, and sometimes earlier; the first swarm needs little or no care, it being generally strong and vigorous, and goes to work with a will, frequently surpassing the parent stock in surplus stores. The second swarm appears about 12 days later, does not number as many, and seldom gathers more stores than is necessary for its winter use; occasionally a third swarm issues, weaker in number, and having less time to provide for themselves; they need more care than rest, though I have at times carried them for miles, where buckwheat fields are numerous, and they have turned out more than self-sustaining. I generally weigh all my hives before using them, then when occupied by the bees, on re-weighing them in the fall, I can tell whether they have sufficient honey for their substenance. A swarm and stores, independent of the hive, should weigh at least 25 lbs.; when I find them below that weight, I always feed them during the winter. Honey, of course, is the best food, though some make a syrup of white sugar, or use sugar candy. In giving them honey, it should be placed within the hive where they can have easy access to it; if it is in the comb, where I have a movable comb hive, I place it in the frames, but strained honey should be placed in a small wooden trough, (tin or metal will sour the honey) then at intervals I place straws so as to give them sure footing, and thus prevent them from falling in the honey and drowning. They require more food upon a bright, warm day; during the extreme cold days they are in a state of torpor.

When swarming is over, I put the surplus honey-boxes in their respective places, and take them out about the 1st of October or even earlier, taking care to leave sufficient for their maintainance during the coming winter; at times, I have taken from 40 to 50 lbs. of beautiful white honey from a single hive.

B. R.

For the American Bee Journal.

Artificial Swarms, etc.

On page 148 friend Dorr gives his method of artificial swarming. We have tried that way too, but do not like it, for it breaks up the stocks so badly, it gives them too much empty space.

Here is our plan. Say you have five stocks; go to four of them and take out two frames of brood and honey from each, shaking the bees back into the hive, and put in an empty hive; then move No. 5 to a new place and set your hive filled with brood combs in its place; all flying bees from No. 5 will enter the new hive and soon be building queen cells, unless you can give them a capped queen cell, as friend Dorr says. No. 5 will soon have more flying bees, and will hardly know they have been molested, for while the young bees are hatching and eating honey, the queen will be filling the empty cells with eggs before the older bees can fly to fill them with honey. You can give each stock an empty frame or two if you like, but to give a new stock one-half of the hive in empty combs is too much, I think.

And still another one, which I think is even better. Place your empty hive where you wish it to stay; go to your four stocks as before, take 2 or 3 frames of brood, according to the amount they can spare, and shake the bees off on the alighting board of your empty hive, being *sure* you have not got the queen. The flying bees will rise and go back to the old stock, while the young bees will travel into the empty hive where the frame of brood is placed after shaking them off. Give them 6 or 8 frames of brood and honey shaking each at the front, and then if you have not bees enough to suit, take out more frames from old hives and shake off bees till you have enough, giving the combs back to old stocks. If you have a queen cell to give the new stock, all right, if not, they will

attend to it themselves. The young bees will not fight each other, as we have used Italians, hybreds and blacks all mixed together.

BEES AND GRAPES.

Some of our hives stand close to our grape-vines, have had them under the vines and none over 5 ft. away, and we never yet saw bees touch them. It's all *bosh*. Roll up the evidence, friends, and let's "*squelch*" the poisoners in their infancy.

BEE QUILTS.

To those who use or are going to use quilts for their hives I would advise them to *not use cotton-cloth*, but take woolen; it is more porus than cotton and will not take fire from sparks when bees are smoked with rotton wood, etc. If you use cotton you may step out into your bee yard some day and find one of your stocks doing a land office business in the way of a bon-fire.

Since June 15th we have had no rain and things are getting pretty dry, but bees are getting honey, for combs are nearly full that were extracted on the first of this month. W. M. KELLOGG.

Oneida, Ill.

For the American Bee Journal.

Caution!

Believing it the duty of everyone to expose fraud wherever found, I herewith submit the following—my experience—to the consideration of my brother bee-keepers: Last season I obtained 1050 lbs box honey, and wrote C. O. Perrine, for the purpose of making arrangements for the sale of the same.

I gave a clear statement of the condition of my honey. In the lot there were 12 Adairs sectional boxes—14x20x5 of ⅞ inch stuff, with glass on both ends. Most of it was put up in boxes 5x5x6, glass on four sides, with ⅞ inch stuff for top and bottom; perhaps about 20 were of the same dimension, with glass at two sides—the other sides of ⅞ lumber. The honey was about one-half Linden, the other half Buckwheat.

I stated in my first correspondence with him, that I wanted *gross* (that is, weight of boxes included) weight for all my honey. In answer to my letter he stated he would pay 27c per lb; and gross for small boxes. In my reply I stated that my large boxes contained not as much lumber per pound of honey as the small ones, and as they were as convenient for retailing, if not more so than the small ones. I wanted gross for all. No reply was made touching this point, and my honey was sent supposing this understood.

About *two weeks* after shipment, I received word that honey was received all "O. K." (he promised to pay within a week at most, after receipt of honey) but busy times made it impossible for him to get at the tare. About two weeks after this, and after I had written stating I needed money bad, I received a check of $100.00. About four weeks after this, I received $60.00 through a draft, and four weeks later another $50.00 by the same process.

He finally wrote asking if 25c ℔ lb would do me, the honey being not as bright as he supposed; and as prices *then* were, he would be glad to *sell* the *Buckwheat* for that price. I replied no, for he had but offered a medium price—honey being then, when the bargain was made—25 to 30c per lb. I stated further, he should have made this request in the first place; and that I thought I had waited long enough for my money, without being compelled to lose two cents per lb on it. He finally sent the balance. On figuring up, I found I was about $25,00 behind; that he kept back in deducting boxes to that amount. I wrote him in regard to this, and threatened to expose him if he did not do the fair thing—I received no satisfaction.

I would advise bee-keepers to beware. Tardiness in payment is sufficiently annoying without indulging in such trickery as I have enumerated above.

If Perrine did not intend to pay me for gross weight, he should have said so, seeing I insisted upon it. "Be not deceived by imitations!" he puts at the end of his advertisement. Verily I say, beware of such imitation! Adam Grimm hit him a severe blow and I hope this addition will either make him a fair dealer or force him from lack of patronage, to shift his business into more prompt and reliable hands.

Berlin, Wis., J. D. KRUSCHKE.

P. S. Have just received a statement from Mr. Dadant to the effect that they are always paid *gross* for honey in Adair's sectional boxes. J. D. K.

For the American Bee Journal.

Things Seen and Unseen.

WHAT I HAVE SEEN.

I have seen in the bee journals a great many reasons why the bees die. Some are all right, but nearly all wrong! I have seen bee-keepers so anxious to obtain surplus that they robbed bees in the fall, and the consequence was the bees died of starvation during the winter!

I have seen bee-keepers so anxious to multiply, they kept their stocks all the time in a weak condition; but the result was less brood and little or no surplus!

I have seen an empty comb put in between the brood combs in order to hasten matters; but I have seen it act as a division board; the queen remaining on one

side and the bees building queen cells on the other, thus causing trouble in the camp!

I have seen a ten-days queen live just as long, and proving equally as prolific as one hatched in the usual time, though the former are not to be recommended!

WHAT I WOULD LIKE TO SEE.

I would like to see bee-keepers when reporting how much honey they obtain from a single hive or number of hives, be just as particular to state the size of their hives, for in my humble judgment there *is some* difference between a hive holding ten frames and one holding fifty!

I would like to see bee-keepers when reporting how much surplus they have obtained, to give *some* credit to providence and not all to their *own skill* or particular *hive* they are using!

I would like to see every contributor to the BEE JOURNAL when he errs either in judgment or practice, to early and freely confess it! Why? Because it is noble and manly!

I would like to see a good feeling prevail amongst bee-keepers, if they do cross each other's path once in a while, and also

I would like to see the managers of the BEE JOURNAL report before the year is out, that no man (nor even a woman) owes them anything—not even a grudge! So mote it be! ANGUS.

For the American Bee Journal.

Transferring Bees.

Many persons having the old box gum, and wishing to use a frame hive, are puzzled to know how to get the bees from the old gum to the new hive. It may seem to be a terrible job, but the operation can be performed in an hour, and if care is used, without a sting, even if working without a veil or gloves. The best time to transfer is early in the spring, when the fruit trees are in bloom, though it can be done any time during the summer, and the combs be soft, but you will have to feed them. All the tools that are necessary are, a hatchet, cold chisel, and a long knife. Select a room, or an out-house, with one window. Underneath the window fix a stand or table about five feet long. Take an old sheet, double it up to about the size of the frame, to lay the comb on, so as not to bruise the cells. Lay your tools along side, and some sticks, made about one inch longer than the frame is wide, and three-eighths thick; also rubber rings, such as are used on car tickets. Fine wire or string will do to tie the comb into the frame, but not as good as the sticks. There are many ways of fastening the comb into the frame. After transferring one hive, you can use your ingenuity. Select the gum, blow smoke in at the entrance, and rap briskly on the outside of the hive for a few minutes, until they set up a hum of peace. Remove the hive to the room, and leave a box in the place of the hive, to catch all returning bees; invert the hive, and cut out the side of the hive parallel to the comb; the bees will get out of your way; lay two sticks down on the quilt, and a frame on top; cut out a comb; brush all the bees off; lay it on the frame, and cut it to fit; lay two sticks on top; spring the rubber rings over the ends; raise the comb, and place it in the hive, having it at your right hand; continue to remove all the comb in a like manner, using care that you put the combs in the new hive in the same rotation that they were in the old hive. Shake all of the bees out of the old hive in front of the new one, and they will all go in like a new swarm; or, after placing two frames in the new hive, brush all of the bees adhering to the comb into the new hive, and by the time you are through, nearly all of the bees will be in the hive. After closing up the hive, let it stand for awhile, and if the bees are still quiet, you may be sure the queen is in. If she is not, the bees will run all about the entrance and over the hive, hunting for something, as they are, for their queen. Look around for a cluster of bees, pick them up with a dipper, and put them in the hive, and if the queen is with them, all will soon be quiet. Return it to its old stand, shake out the bees in the box in front of the hive, and they will all go in. In three or four days after, open the hive, pull off the top rings, and pull the sticks out, as by that time the combs will be fastened to the frames. They are all right now. After performing the operation you will be surprised to see how easy it is, and how quiet the bees are at being thus stirred up, and you will also see the advantage of the frame hive.

A. J. MURRAY.

For the American Bee Journal.

How to Introduce Virgin Queens and make New Colonies.

Take your Queen Nursery and put into each cage, between the tins, a few cells of sealed honey in new comb, or a small piece of sponge, well saturated with honey, for feed for the hatching queens, so that they will not starve if the bees fail to feed them. Now cut from the combs as many queen cells as you have prepared cages in the nursery, and suspend one in each cage with the sealed end downwards, as found in the combs, remembering always never to jar or compress the cells in any way, and also to see that you have good, large perfect cells, and generally not cut from the combs before the 9th or 10th day.

The cages of the nursery being thus supplied with feed for the queens when they hatch, and a good, perfect queen cell in each, the doors of the cages are to be closed, and adjusted in the nursery frame.

Then remove from a strong colony one of its centre combs, and introduce the nursery into its place, to remain until the queens emerge from the cells. As they emerge, each cage containing a virgin queen, may be removed from the nursery and placed in one of the adjacent combs of the same colony, on either side of the nursery, by cutting out a piece among the brood large enough for the cages. Then each comb, separately, with the cages and all the adhering bees, is removed and placed in a new hive between two combs of hatching brood, taken from other colonies, the bees being brushed off. On the next day, near sundown, each of these new colonies so made may be opened, and the combs, bees and queens, well sprayed with perfumed sweetened water, and the queens set at liberty by opening the door of the cages, she can pass out while the bees are engaged cleaning the spray off of themselves, combs and queen, and receive her kindly, being of the same scent, and hatched in the same hive. As soon as the queens become fertilized and laying, add more combs of hatching brood from other stocks to each new colony, brushing the bees from the combs added back into their own stands, repeat these additions of brood and combs until your new stocks are complete. Thus we can raise and introduce virgin queens into new colonies with general safety. The cages can be removed from the new colonies in a day or two after the queens are set at liberty. While doing this you can see if your young queens are all safe.

If we use all black stocks in this method we can soon convert them into Italians, if we use none but pure Italian queen cells. Each comb in the nursery colony becomes the active workers in the new ones, and the brood from other black colonies adds to the supply, until the new queen's brood begins to hatch. J. Davis.

Does Bee Culture Pay?

When any new enterprise is started or any old employment of man which, in this fast age to make money in large sums, has become neglected, and the thoughtful man suggests its revival under the advancing help of science, the question is at once, "Does it pay, or will it pay?"

So it is with bee culture. It has paid all who have given it proper attention, and it pays well even those who give it only heedless care, and keeps bees more as an amusement for old age or young girl or boy in the family, that their attention may be sometimes agreeably taken up in watching this laborious and ingenious little worker, whose labors furnish such a luxury as honey. We give the following concise answer to this question from one of our exchanges:

"We believe that no stock upon a farm will pay better than a few good stocks of Italian bees. They provide for themselves without giving their owner any trouble whatever, and with very little attention at certain seasons of the year and with suitable quarters provided for their health, shelter and workshops, they will yield a rich crop of fine marketable honey which will always sell at a good price.

"If there is a land on earth which should flow with milk and honey it is ours, and yet owing to our own improvidence, there are very few farmers who have either milk or butter to sell, or even to supply their own wants in abundance, and scarcely one in a thousand who has honey for sale. Tell them that they ought to keep a few stocks of bees and raise honey, and one will tell you "his grandmother tried it once when he was a chap and she had no luck with them." Another will say he does not want to have "his wife and children stung nearly to death by the darned things." Another will tell you how he "knew a man who has kept bees for the last fifteen years and never made a cent from them." Another will say he has more than he can do now (raising cotton, we suppose, on all his land, and hauling bought hay and corn for his stock,) and cannot afford to "bother with bee gums."

"The management of bees is very simple, and can be easily learned. A little looking after in the morning when they fly, and in the evening when they return, a little patch of white clover and buckwheat, and a few plants suited for bee food, and a little protection in the winter, are all that is needed." —*Baltimore Sun.*

For the American Bee Journal

Bee Keeping.

We were requested to make a statement relative to the average yield of honey procured by us, per colony, during the time we have been keeping bees, but not having kept any account of honey taken, except for the past three years, and during that time more by estimates than by actual weights, we cannot give such a report as desired, though the following estimate may be of interest:

1871. Average per colony, 40 lbs.; average sales, 22 cents per lb.; average value of honey per colony, $10, (box honey).

1872. Average per colony, 43 lbs.; average sales,, 22 cents per lb.; value of honey per colony, $9.46, (¾ box, ¼ extracted)

1873. Average per colony, 16 lbs.; average sales, 25 cents per lb.; average value of honey per colony, $4, (½ frame, ½ extracted).

The most box honey taken any year from any one hive, 98 pounds; that was in 1871, and we are confident that twice that amount could have been secured just as well, but our bees then were all in small hives affording poor advantage for supplying them with boxes. This year promises to be a good one for a honey crop, and with our present increase in colonies, (natural and artificial) we hope to be able to make a good report for the current year.

One of the main things in successful bee-keeping is, to *keep all the stocks strong.* If you get very anxious to have colonies in abundance, send for a "bee man" who is the representative of some new-fangled moth-trap, or some other remarkable device by means of which the bees are

"happy and glorious
O'er all the ills of life victorious."

and have him divide each one of the old stands into four or five new ones, but you will be likely to pronounce bee-keeping in Kansas a humbug as your bees "play out" and leave you debating the question in your own mind whether "it is better to be born lucky than rich."

Artificial division, done in a proper manner and at a proper time, is a very good way to increase the number of colonies, but queens or capped queen cells, from strong colonies should be ready to give each divide, and we aim to improve the stock at the same time, by procuring queen cells made in strong colonies and noted for their good traits as honey gatherers, whether they be hybrids or Italians. This year we have secured a couple of cells from one of our neighbors, from a colony (and he has several colonies like it) that seems to be a cross between the Italian and an extra large gray looking bee, which kind with him gathers one-third more honey than his other bees. We make new colonies by placing three or four frames containing brood, but no old bees, in an empty hive, first placing the queen cell in one of the center ones, then we remove one of the strongest colonies, six or eight feet away on a straight line with the front and facing the same way, then we place the new one on its stand. This is best done when honey is abundant and in the middle of the day when there are plenty of bees out at work, and by night there will be a strong swarm and the hive removed not materially injured.

Thus we make a third one from two, or a third one by taking a sheet of brood from each of several different hives. As a means of strengthening weak colonies a prominent bee-keeper suggested the idea to us of exchanging the queens of the weaker ones with those of the stronger, as with him queens not thought to be very good were generally thus rendered more prolific.

There is considerable difference of opinion in regard to the comparative merits of the Italian and the black bee. We have several of what were said to be the pure Italian, but the queens were all short-lived. As for profit in honey we doubt their superiority over the hybrids. The hybrids seem to be very excellent bees and during a year of scarcity will do much better than the blacks. Last year fully demonstrated this fact to us. It seems that almost any kind of a change from long continued in-and-in breeding, is beneficial.

Kansas. M. A. E.

A Visit to a Bee-Hive.

DESCRIBED BY THE FAIRY FLYAWAY.

"How doth the little busy bee
Improve each shining hour,
And gathering honey day by day,
From every opening flower?"

"How doth she, indeed?" I said to myself as I awoke one bright morning.

The thought was suggested by a noisy bee, who waked me by trying to enter my lily-bell, and I resolved that I would look into the matter. So I flew out of my lily, and to the nearest hive, to make inquiries.

Bees are high-spirited and quick-tempered persons, I know, but a fairy can make her way anywhere.

The hive was a neat building, pleasantly situated in an orchard. On one side a clover-field, full of perfume, and on the other a gay flower-garden.

At the door of the hive I was met by a number of sentinels, one of whom addressed me rather sharply, with "Who goes there."

"A friend," I replied, "who wishes to learn something of the ways of the bees, and how they make honey.

"Your passport," said she.

"I never thought of such a thing," said I.

"Do you intend to go into the honey business yourself?" asked she.

"By no means," I replied; "I am the fairy Flyaway, and only want information and amusement."

"I will send a messenger to our Queen," said the sentinel.

The messenger soon returned with the Queen's permission to go entirely through the hive, escorted by one of her own body-guard, excepting into the royal apartment.

I then entered the doorway, where I was greeted by my guide, who gave me her name, Deborah, and ushered me, with a grand flourish of her wings, into a wide gallery passage.

In the middle of the hive I saw a long string of bees, reaching from the roof to the floor, each bee clinging to her neighbor, and remaining motionless, while other bees ran up and down, as though upon a ladder.

"What is that?" I asked my guide.

"A bee-rope," she replied, "a short cut from the top to the bottom of the hive."

I remarked that I thought it might be some kind of dance.

"No," said she. "In the winter when there is no work to be done, we sometimes dance in the sunshine before the hive, but never at any other time. We are too busy."

This seemed to me rather sad but I did not say so.

In the gallery we saw bees hurrying about in all directions, too busy to notice us, and never disturbing or interfering with each other in the least.

"These are our workers," said Deborah.

"About how many of them are there?" I inquired.

"There are 20,000 of us all told," she replied, "one Queen, or Mother-bee, blessings on her majesty! some hundreds of drones, and the rest workers."

"They must be tired enough if they always work as fast as these do," I said.

"No," replied Deborah, "they like it. A true worker-bee is never content to be idle. Would you like to see the Nurseries?" continued she.

"Anything you please to show me," I replied.

We then turned through the side gallery into a quiet corner of the hive, where we found curious cradles or cells, of different sizes, made of the purest white wax.

"Here the eggs are laid by our queen," said Deborah, "generally about two hundred a day, but often many more."

"Then your Queen must be busy, as well as the rest of you," I said.

"No one works harder," replied my guide.

I thought of our beautiful Queen, with her delicate wings, and felt that a bee-hive was not much like Fairy-land.

"And will these eggs ever turn into real bees?" I asked.

"Oh yes," said my guide, "in three or four days they hatch into worms."

"Something like catterpillars and butterflies?" I asked.

"A little," she replied, "but in this case the young worms are worth taking care of, as the bees are valuable and industrious persons, while butterflies and idle and useless."

"You are mistaken there," I said, "they are useful to us fairies. In our long flights we could not do without them."

"Ah," said she, "I never heard of it before."

"When the eggs turn into grubs or worms," continued she, "the workers find plenty to do to take care of them. Each little worm must be carefully fed for five days, with water, and bread, and honey."

"What kind of bread?" I asked.

"Oh, bee-bread," she replied, "nothing else would suit them. The cells are then sealed up, that is, a nice lid or cover is put upon each one, and the little worms must take care of themselves for awhile. Every worm is expected to line its cell neatly, with a silken webbing, and then roll itself up in a cocoon for a time. Ah! we are just in time to see the cells closed."

And, to be sure, there were attendants sealing up the cells, a small white worm in each. I must confess it made me shudder to look at them for I never did like worms! It is so dreadful to meet one in the folds of a rose.

But I fancied the little worms seemed uneasy at the idea of being shut up, and so I told my friend.

"Ah well!" said she, "It is the only way. We all go though with it. Before many days they will come out perfect bees.—Wings and legs all right."

"And must they go to work as soon as they are out," I asked, "and not dance once?"

"No," replied Deborah. "They are not strong enough to fly until they have been fed one or two days. Then they begin to work in good earnest."

I observed that the cells were of different sizes, and inquired the reason.

"The largest and handsomest cells," replied Deborah, "are for the young Queen bees or Princesses. The next size for the drones, and the smallest for the workers."

"Can the cells be used more than once," I asked, "or are they done with, like last-year's bird's nests?"

"The royal cells are all destroyed when they have been once used," she answered, "but the others are cleansed and the silken webbing is left to strengthen them, and they are then better than ever."

"How long does it take to turn from eggs into bees?" I enquired.

"Sixteen days for the Queen bee to become a perfect insect. Twenty-four days for the drones, and twenty-one for the workers," she replied.

"And have the attendants nothing to do but to feed the little ones?" I asked.

"Oh yes," said Deborah, "they attend the Queen, do the fighting, prepare the wax, make the combs or cells, collect the honey by day, and store it by night, and keep the hive in order. The drones lead an idle life. They will die, rather than work. They will not even feed themselves if they can find any one else to do it. And, to tell the truth, like all idlers in a busy community, they are such a bother,

that about once a year we have to kill them off."

"My dear Deborah!" I exclaimed in horror, "you can't mean it!"

"Yes. It is the custom. They don't seem to mind it. But let us look now at the store-rooms," said she, hastily changing the subject, as well she might.

In the store rooms we saw rows upon rows of cells, fitted one upon another, and every one filled with clear honey, and securely sealed.

"This is our winter store," said my guide; "pure honey, made from the white clover, and put up in the combs by the Workers."

"How do they make the honey?" I asked.

"They gather it," she replied. "We send out thousands of bees every morning, to all the gardens and fields around. Mignonette makes good honey, and so do apple-blossoms. We usually make from two to six pounds a day. The bees often fly as far as two miles from the hive, and then come back loaded with honey and pollen. Each Worker has a tongue or proboscis with which she licks or brushes up the honey, and puts it into her honey bag.

"Stop a moment" said she to a Worker who was hurrying by. "You will observe, my dear, that the hinder legs have something like baskets, on the side, in which the pollen or bee-bread is carried.

"I see it," said I "I have often watched the bees coming out of flowers, covered with yellow dust." I then took the opportunity to mention to her that I lived in a lily-bell, that I sometimes danced the greater part of the night, and that the bees were very much in the habit of waking me at an unreasonable hour in the morning.

She said she would attend to it.

"And how do the bees make wax?" I asked.

"By a process best known to themselves," replied Deborah. "It is not in my line just now, and I am quite sure that I could not describe it to you. The bees say they cannot tell how they do it, but they wish to keep the secret to themselves. The sides of these cells are the one-hundred and eightieth part of an inch in thickness. So you see we must use an immense quantity of wax."

"You must, indeed," I replied. And are the cells always made in this shape?"

"Yes," said she, "they are six-sided. The early bees fixed upon that as the best for strength and economy of space, and no change has been made since. However, Bumble-bees, she added with a slight expression of scorn as though she had said, the Beggars, "have a way which they prefer. They put it up in bags, and store it under-ground."

This was no news to me. Such a thing has been done in Fairy-land as to "borrow" a little honey from the bumble-bee, in time of scarcity. But I said nothing.

"And you tell me workers do the fighting. Is there much fighting to do?" I asked. "A great deal," replied Deborah.—"We have many enemies, bother on them! Mice, catterpillars, moths, snails, wasps, robber-bees and other evil-minded creatures!" As she said this she buzzed fiercely and unsheathed her sting.

"Look here a moment," said she, "and you will see one of them."

And there in a corner, guarded by a squad of bees, lay a wretched snail prisoner in his own shell. The edge of the shell was covered with a strong cement, which held it firmly to the floor.

"I think we have him now, the villain!" said my guide. "His shell is fastened with propolis."

"What is propolis?" I asked.

"It is bee-glue," she replied, "resin from the buds of the trees."

At this moment we heard a low murmur of "The Queen! the Queen!" and turning, we saw passing through the principal gallery, a magnificent bee, large and more stately than any of her subject, though her wings were much smaller than theirs. The under part of her body was golden, the upper part dark.

She was surrounded by her body guard, and as she passed, her subjects politely backed out of her way, to give her room, and some offered her refreshments in the form of honey.

"What would become of us, if anything should happen to our beloved Queen!" exclaimed Deborah.

"How long has she reigned?" I enquired.

"More than two months," she replied.

"And how much longer may she reign?" I asked.

"She may outlive us all," she replied, "Queens live four years, and workers only from six to nine months. Our old Queen went away with a swarm to another hive. "But now," she continued, "if you will come back to the gallery, I will offer you some of our best honey."

This was tempting, even to a fairy, and we are considered dainty; that is, the crickets and grass-hopper call us so. I tasted some honey and found it delicious.

"This is not like the honey one finds in the flowers," I said.

"We have our way of purifying and preserving it," said Deborah.

"And bee-bread. Can you tell me exactly how to make it?" I asked.

"That is not allowed," she replied, "though it would do no harm, as no one but a bee could ever make it. It is made of the polen of flowers, and honey and water; and it wants a great deal of kneading. But

it is only fit for the food of young bees. We old ones never eat it."

"And do the young princesses eat it too?" I asked.

"Not at all," she replied. "They are fed upon royal jelly."

"And what is that?" I asked.

"Don't ask it !" she replied. "It is the greatest secret of all. Off goes my head, if I tell you !" "And by the way," said she, perhaps it will be better to say nothing about the Drone business."

"Perhaps it will," I replied, "for I have known our fairy-queen to imprison one of her subjects in a pea-pod a whole hour, for only pinching a gnat."

"Ah ! yes," said she, "not our idea of discipline."

She then escorted me to the door of the hive. I thanked her, recommended less work and more dancing, invited her to call on me in my lily-bell, and took my leave, feeling that I had really learned something of the ways of the busy bee, if not how she makes honey. The next day I sent to my friend Deborah, by a butterfly, the finest four-leaved clover I ever saw, knowing that to be the best return I could possibly make for her kindness.—*St. Nicholas.*

Entrance Holes to Hives.

The honey bee ordinarily in its wild state inhabits hollow trees, the entrances to which are either through long slits or large holes, through which it has ample room to pass, without brushing off the pellets that stick out from its sides. A worker bee can pass easily through a hole three-sixteenths of an inch high, but in passing through a round hole of that diameter the pollen would be dislodged. A drone requires a hole nearly ¼ of an inch in diameter to pass through, so that in making entrance holes to hives it is evident they should be at least ¼ of an inch high, to allow drones, as well as the queen and workers, to pass; but they should not be any higher, if we expect to exclude mice, humble bees, hornets and other enemies of the bee, larger than they are.

Now, did the bee carry its load behind it as the leaf-cutter does, a round hole of ¼ of an inch in diameter would be large enough, but the load on each side sticks out from its sides so that more room must be given laterally, even for the passage of a single bee at a time —but as, during active working, there is a constant flow of passing bees, it must be much wider. I find the width should be at least 3 in. But a single hole is not sufficient, even of that width, on account of their peculiar manner of ventilation, by which they are enabled to keep up a constant circulation of fresh air through the hive and regulate the temperature. There should be two such holes at least four or five inches apart, but on the same side of the hive. All other openings should be closed tight. If thus arranged, the left hand hole will be used for ventilation, and the other for the passage of most of the bees.

Querry: Why do bees always use the left hand hole for ventilation?—*Cor. Southern Farmer.*

Movable Homes for Bees.

It is well known that bees may be moved from place to place, and, honey-secreting plants being in abundance, they will store large quantities of honey. A contemporary, in illustrating this, mentions the following circumstances said originally to have appeared in the London Times in 1830. It will of course be taken with a large allowance for "salting" by those who know bees:

As a small vessel was proceeding up the channel from the coast of Cornwall and running near the land, some of the sailors observed a swarm of bees on an island; they steered for it, landed, and took the bees on board; succeeded in hiving them immediately, and proceeded on their voyage; as they sailed along the shore, the bees constantly flew from the vessel to the land, to collect honey, and returned again to their moving hive; and this was continued all the way up the channel.—*Western Rural.*

Honey-Dew.

Amyntas, in his Stations of Asia, quoted by Athenæus, gives a curious account of the manner of collecting this article, which was supposed to be superior to the nectar of the bee, in various parts of the East, particularly in Syria. In some cases they gathered the leaves of trees, chiefly the linden and oak, for on these the dew was most abundantly found, and pressed them together. Others allowed it to drop from the leaves and harden into globules, which, when desirous of using, they broke, and having poured water on them in wooden bowls, drank the mixture. In the neighborhood of Mount Lebanon, honey-dew was collected plentifully several times in the year, being caught by spreading skins under the trees, and shaking into them the liquid from the leaves. The dew was then poured into vessels, and stored away for future use. On these occasions the peasants used to exclaim, "Zeus has been raining honey !"—*History of Insects.*

The rule generally adopted for taking bees is for the second party to furnish hives, take care of the colonies for a term of years, and return old stocks with half of the increase.

American Bee Journal

W. F. CLARKE, EDITOR.

AUGUST, 1874.

Bees and Wasps.

Sir John Lubbock has just read a paper on the above subject at the Linnæan Society. The paper commenced by pointing out, with reference to the power of communication with one another said to be possessed by Hymenoptera, that the observations on record scarcely justify the conclusions which have been drawn from them. In support of the opinion that ants, bees and wasps, possess a true language, it is usually stated that if one bee discovers a store of honey, the others are soon aware of the fact. This, however, does not necessarily imply the possession of any power of describing localities, or anything which could correctly be called a language. If the bees or wasps merely follow their fortunate companions, the matter is simple enough. If, on the contrary, the others are sent, the case will be very different. In order to test this, Sir John kept honey in a given place for some time, in order to satisfy himself that it would not readily be found by the bees, and then brought a bee to the honey, marking it so that he could ascertain whether it brought others or sent them, the latter, of course, implying a much higher order of intelligence and power of communication. After trying the experiment several times with single bees and obtaining only negative results, Sir John Lubbock procured one of Marriott's observatory-hives, which he placed in his sitting-room. The bees had free access to the open air; but there was also a small side or postern door which could be opened at pleasure, and which led into the room. This enables him to feed and mark any particular bees; and he recounted a number of experiments, from which it appeared that comparatively few bees found their own way through the postern, while those which did so the great majority flew to the window, and scarcely any found the honey for themselves. Those, on the contrary, which were taken to the honey, passed backwards and forwards between it and the hive, making on an average, five journeys in the hour. Sir John had, also, in a similar manner, watched a number of marked wasps, with very similar results. These and other observations of the same tendency appear to show that, even if bees and wasps have the power of informing one another when they discover a store of good food, at any rate they do not habitually do so; and this seemed to him a strong reason for concluding that they are not in the habit of communicating facts. When once wasps had made themselves thoroughly acquainted with their way, their movements were most regular. They spent three minutes supplying themselves with honey, and then flew straight to their nest, returning after an interval of about ten minutes, and thus making, like the bees, about five journeys an hour. During September they began in the morning at about six o'clock, and later when the mornings began to get cold, and continued to work without intermission till dusk. They made, therefore, rather more than fifty journeys in the day. Sir John had also made some experiments on the behavior of bees introduced into strange hives, which seemed to contradict the ordinary statement that strange bees are always recognized and attacked. Another point as to which very different opinions have been propounded is the use of the antennæ. Some entomologists have regarded them as olfactory organs, some as ears, the weight of authority being perhaps in favor of the latter opinion. In experimenting on his wasps and bees, Sir John, to his surprise, could obtain no evidence that they heard at all. He tried them with a shrill pipe, with a whistle, with a violin, with all the sounds of which his voice was capable, doing so, moreover, within a few inches of their heads; but they continued to feed without the slightest appearance of consciousness. Lastly, he recounted some observations showing that bees have the power of distinguishing colors. The relations of insects to flowers imply that the former can distinguish color; but there had been as yet but few direct observations on the point.

Consolidation.

We think we shall give pleasure to a large majority of the bee-keepers of America when we announce that the NATIONAL BEE JOURNAL is with this month's issue united with the "old reliable" AMERICAN BEE JOURNAL. The time has passed when the friends of either JOURNAL, have any points at issue, or any personal feeling in the way of a union, on the common ground of a deep interest in bee-keeping, and an ardent desire to see a JOURNAL devoted to their interests so sustained as to be worthy their support and an object of national pride.

There may have been in the past a division of interests and a difference of opinion upon patent hives which engendered strife and *seemed* to make it necessary to support two journals. Those things belong to the past, and we know that the time has come to bury the hatchet and all agree to make our one JOURNAL what it ought to be—a medium where bee-keepers of experience can exchange opinions upon both practice and theory, and also where beginners may find reliable counsel, and timely hints upon all doubtful points in their new employment.

By the union of these journals we are enabled to secure the services of all the best writers in the World upon the topics of which it specially treats. We shall also be enabled to improve it in all respects, and we are sure that we shall publish a journal which every bee-keeper will feel a pride in supporting.

There is always an increase of strength in a union of interests upon proper grounds, and this consolidation is one so manifestly wise, that we are sure to receive such an endorsement as will make us strong in our aim to issue the best periodical ever sent forth, devoted to any special interest.

We have decided to publish the consolidated BEE JOURNAL not only in Chicago, but also in Cedar Rapids, because Iowa is now the centre of the bee-keeping interests of this country. West of us, the business is being rapidly developed. Our subscribers are numerous in California, Colorado, Nevada, Kansas, Nebraska, and Missouri, while enterprising bee-keepers are found both north and south of us. It is evident that in these new fields the best pasturage for bees on the continent is found. The State of Iowa has furnished for years some of the most progressive bee-keepers in the country, who are prepared to be safe advisers for beginners at the West.

While we are dependent upon our subscribers for the material aid which is to enable us to carry out our plans for their good, we ask it not as a favor to us, for we shall send out a journal which no bee-keeper can afford to do without at any price.

Seasonable Hints.

If bee pasturage fails at any time by reason of dry weather, it is usually in the early part of this month or latter part of July. Hives that have been gaining in weight, may now be losing daily, and except in the morning and evening, when bees are out for water and pollen, they hang idly about the hives. Rains in most localities have started buckwheat and fall flowers into growth, and if properly managed, bees will soon begin to gather fall stores abundantly. What they need now, is room near the centre of the hives where the queen can deposit her eggs, so that young bees can be reared to supply the places of those that will be used up in gathering the fall honey.

If the combs have not been emptied with the extractor, do it now; not to take away all supplies, but to make empty space for two purposes: 1st, to give the queen room. 2nd, to stimulate the bees to exertion. There is nothing like a "vacuum" to do this.

Even when there is abundant honey in a hive, it sometimes pays to feed sugar syrup or diluted honey, to colonies in which we find the queen has stopped laying, or she has ceased to cherish her eggs. We have known them to begin again, as if it were spring in 24 hours after they had been fed in this way. To use the extractor and return the combs with some honey "loose" upon them will answer the same purpose.

A good supply of water is also essential now. Springs and brooks from which they have had their supply may now be dried up. Your neighbors will complain

for the first time, perhaps, that your bees annoy them by hanging about watering troughs, drains and pump-spouts. Make a place or places, some rods from your hives, where the bees can drink safely, and keep them always supplied. It is well to toll them to their trough by putting pieces of comb, and sweetening the water at first. A little salt thrown in every day keeps the water sweet, and some claim, is beneficial to the bees.

While honey is not secreted in flowers, be cautious about opening hives, lest robbers are attracted. The morning from 7 o'clock to 11 is the time in this month to open hives safely.

Queen raising may proceed now to even better advantage than at any other season, if *care is taken* to make every *nucleus* self-supporting ; by this we mean that each queen-rearing hive should have young bees, old bees, brood at all times, and plenty of honey.

Queens may be exchanged now, poor ones killed, either impure or not prolific ; and young ones given to them. We never, however, take a queen from a full colony until we can give it one that we are *sure* is a better one. We would not put a queen into such a colony until we had tested it in a nucleus.

The care which we recommend, in order to keep the colony raising brood, is really the first step towards successful wintering ; a subject of vital interest now to bee-keepers, and on which we shall have much to say in succeeding numbers. E. S. T.

Bees and the Centennial Fair.

Mr. J. R. Wells in his communication for this number says "nearly every interest that can be mentioned except bee-keeping, has been referred to committees preparatory to the Centennial Fair to be held in Philadelphia 1876, etc."

He is in error in supposing that the bee-keeping interest has been neglected. At the meeting of the National Society at Louisville, last December, a committee was appointed consisting of Gen. Adair, of Kentucky ; Mrs. E. S. Tupper, of Iowa ; and J. W. Winder, of Cincinnati ; with the President of the Society, *ex-officio* ; and authorised to appoint sub-committees where ever they deemed proper. The question as to whether bees shall be allowed at the Fair is still an open one, except in observation cages ; but there are multitudes of other things—honey extractors, artificial comb, choicest honey in various forms, queen shipping cages, etc., to say nothing of hives, out of which a most valuable and instructive as well as interesting exhibition may be made. This committee will report at the Pittsburgh meeting, doubtless, and receive aid and counsel as to future preparations.

Honey Dealers.

We have published the articles from Messrs. Bird and Kruschke, complaining of our honey markets and merchants, with great reluctance. We do it "under protest" hoping that no one will feel that we desire to be unjust. Our columns are open to anything that the accused may have to say, as to their reasons for the *seeming* unfair dealing.

We can say ourselves for them, that times have been hard ; honey as a luxury which people can do without, has been slow of sale, and it takes time to turn it into money. We know that if Mr. Winder has made no returns "for a few months" as Mr. Bird says, it is because he has received no money from his sales, on which to report.

Joseph Duffeler writes to us that he is willing to publish a card to the effect that Mr. Perrine paid him in full for his honey, even though it was all burned, and he had no insurance on it. We have made collections of Baumeister & Co. for parties and have the promise of money from them, for others, as soon as they can pay it.

Those who send honey to market especially from a distance must remember that expense and time must be expended by the consignee to get it into market. One firm tells us that they have received 1230 lbs. of honey from California. The first bill paid by them was $57 freight charges ! Finding it impossible to sell it in bulk, they went to the expense of $100 for glass jars and tumblers, and took the trouble to put it into them. It will sell now, and at a profit ; but the consignees, doubtless, will begin to grumble before they receive their returns, and then be dissatisfied with scanty profits.

Our advice to those who have honey to sell is to sell it out-right, if possible, even if at a less price. If this is not possible, send it to dealers of established reputation, take receipt for exact weight and until returns are made, exercise charity and patience. In some places where you think there is no sale, a home market may be secured by taking the trouble to put your honey into attractive shape.

Notes AND Queries

QUESTION.

Please inform your subscribers in your next, how far north bees may be kept with profit?
G. O. GRIST.

ANSWER.

Bees are kept very successfully in the northern part of Russia, and winter there out of doors safely. They are also kept in Canada and in the extreme north-east of Maine. In Aroostook County, and as far north as Presque Isle (Maine), bees winter well and are very profitable. Among the mountains of Colorado bees do well. Our opinion is that wherever flowers are found, bees may be kept successfully, if their owners have judgment enough to adapt their care of them to the climate and location.

QUESTION.

1st. Does the queen have a call which she constantly makes her presence known by?
2nd. What state or temperature of the weather it will do to open hives for the purpose of examining brood, etc.?
3rd. The reason why bees cluster before going to the woods? W. M. A.

ANSWER.

1st. It would seem that she does not, from the fact that we have known a populous hive to be without a queen 24 hours without discovering her absence.

The only times we have heard the call of the queen are when she was under guard of worker bees to prevent her going out with a swarm; and again when we have confined one in our hand for a few moments. It is at times, like the first, that the noise of young queens is heard before a second swarm issues which is called "piping." Sometimes this noise is made by a queen before it hatches from its cell.

2nd. It will do to open hives and take out the comb, whenever bees are flying freely. When they are not, it is safe to leave them undisturbed.

3rd. We think the main reason why bees cluster, before leaving is, that the queen in great swarms, is unable to fly freely when she first leaves the hives, her ovaries being full. We have seen hundreds of eggs on the leaves of a branch where a swarm had settled. Swarms containing young queens fly longer and usually settle higher. They seldom show any disposition to go to the woods at first, as they have no special attraction to the young queen with them and will not follow her as they do the "mother" bee in first swarms.

QUESTION.

How long are we to write you nothing encouraging about our bee-keeping? Here we are again at the end of our honey year almost, and still the same old story "bees doing poorly." My 48 swarms came out of my cellar in the spring in very fine condition, loosing only one, and only few cases of dysentery; but the spring months carried off 10 or 12 more—some of my best stocks. "Novice" calls it by the right name—"dwindled away." No cause for these losses that I could see. Honey plenty, combs bright; everything in perfect condition. Very little use to talk about the causes of these losses, for I do not think Mr. Editor, we do not, any of us, know. After summer came, swarms came on fast, and swarmed finely; even in fine condition for the largest blow of white clover I have seen for years; and the drouth came with the clover blow; and to-day we are burnt, dried, and roasted. I have got seventy swarms now—that is bees enough. Who cares if they only make honey enough for their own "use." R. DART.

ANSWER.

If you want more honey, do not expect to increase your stocks so much. An increase of 22 swarms on 48 is all you can expect, without looking for much surplus.

Voices from Among the Hives.

N. K. PEDEN, Mitchellville, Tenn., writes: "Bees have done very well here this season. I commenced with 9 colonies in the spring, increased them to 14; and got 750 pounds of honey up to June 10th. Since that, they have been cut off by dry weather."

JOSHUA ARTER, Crestline, O., writes:—"Basswood bloom is over. There were the most flowers on the trees that I ever saw; but the bees did not collect very much after all. White clover was a failure. There was a profuse swarming. Some hives swarmed as much as three times."

E. DIFANY, Norton, O., writes:—"I began with 24 swarms last spring, and now I have 72. Three have not swarmed yet. Some of my first have swarmed again; in fact my bees swarm nearly every day. I expect if it does not get too dry, to run up to 90 or 100 swarms, all natural swarms but one."

J. M. MARVIN, St. Charles, Ill., writes:—"My 140 old stocks have increased to 200. My surplus is five tons. A neighbor's, under my care, 8 stocks increased to 18; surplus 750 lbs. Honey superior in quality. Stocks in splendid condition, and nothing to do, on account of a severe drouth, the worst ever seen in these parts."

CHRISTOPHER GRIMM, Jefferson, Wis., writes:—"I wintered 134 swarms and lost none through the winter; but spring was very cold and wet, so that I had to unite four swarms, which got very weak with the others. I have got, at this date 67 natural swarms and all are doing finely. The basswood, or lime, are nearly through blossom in this part of the country."

M. T. EMBRY, Poplar Bluff, Tenn., writes:—"I went into winter quarters last fall with 57 colonies. They went through safely with the loss of about 7 or 8 queens. I sold two colonies. The spring was very unfavorable up to the 1st of May. Since that time we have had but three light showers. I have taken about 2500 lbs. of honey from them. Some of my bees have considerable honey yet to spare."

American Bee Journal

THOMAS G. NEWMAN, MANAGER.

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Address all communications and remittances to THOMAS G. NEWMAN,
Cedar Rapids, Iowa.

Special Notice.

During the past ten months of "Panic," the receipts of the AMERICAN BEE JOURNAL have been very light. We have cheerfully "carried" thousands of our subscribers, and now trust that they, will respond as soon as possible, as we have obligations that must be met *at once*. Many subscriptions ran out with the JUNE number, and now we hope to hear from them, as well as from those that expired before that time.

We shall continue to send the AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order for a discontinuance, and we hope those who not wish to continue their subscriptions will notify us by letter or Postal card, either when they expire or before that time.

We have purchased of Geo. S. Wagner Esq. and the Rev. W. F. Clarke all the back subscription and advertising accounts, and hence everything due to the AMERICAN BEE JOURNAL of whatever kind or nature *must* now to be paid to the undersigned.

We hope those who are in arrears will send the amounts due us, during this month, as we are in pressing need of it, to cancel obligations already given for these very accounts. Who will respond?

THOMAS G. NEWMAN, Publisher.

We have received a Postal Order from Shanon, Wis., in an envelope containing nothing else. We do not know from whom it came, nor for what it was intended. Will some one inform us?

Honey Markets.

CHICAGO.—Choice white comb honey, 28 @30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@ 18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO.—Quotations from Sterns and Smith, 423 Front st.

Southern Coast Honey is coming in very freely, and the crop will be very large. We are selling comb in two pound tins, two dozen in a case, for shipping at $3.75 per dozen. Sold mostly for the Montana and Idaho trade. Strained honey, in 5 gallon coal oil tins, 8 and 10 cents ℔ lb. We have sold several lbs. of choice Montana strained at 11 cents. Comb honey in frames 14 @ 22 cents, according to quality.

Books for Bee-Keepers may be obtained at this office.

Not one letter in ten thousand is lost by mail if rightly directed.

Single copies of the AMERICAN BEE JOURNAL are worth 20 cents each.

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

The German Bee-Sting Cure can be obtained at this office. Sent by Express for $1.00. It cannot be sent by mail. See notice.

Our subscribers in Europe, can *now* procure Postal Money Orders on Chicago. This plan of sending money is *safe* and economical.

FRANK SEARLES, Hadley, Will Co., Ills., has 50 swarms of Italian Bees which he will sell for $8.00 each, in any amount, if sent for soon.

Subscribers wishing to change their post-office address, should mention their *old* address, as well as the one to which they wish it changed.

Persons writing to this office should either write their Name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CEDAR RAPIDS, SEPTEMBER, 1874. No. 9.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

For the American Bee Journal.

Spring Dwindling.

You may possibly find the following worth a place in your paper :

Much has been said about the dwindling down of bees this spring. I have observed the same phenomen without finding the solution. I wintered 29 stocks of Italians on summer stands. 3 stocks died in February with sufficient honey. The balance or 26 stocks remained good and lively. I made in May and June 17 new swarms, but the bees would not increase much. Many stocks even seemed to dwindle down in June, when I found one day that a fly of a peculiar long form, caught and sucked my bees. Becoming awake to the subject I found many such bee-killers, who were very greedy on the poor bees. No book or journal speoks of them. At last, I found a description of them in Prof. C. V. Riley's Second Annual Missouri Report, page 121; all three species are there described. I found and killed a large number. At first I found watching on grass, *Evaux Barbardi* and no other. After that disappeared, a similar fly *Asileus Seriteus* and then as *less Missouriensis* appeared. The latter two I found in large numbers on buckwheat and wild flowers. They abound at this day, although I catch with an insect net as many as possible, often 50 in an hour. I am sure these creatures have killed over 100,000 of my bees, and I am convinced, that there is no other bee enemy to be compared with these flies. The swallow's seem to be fond of them, also other birds. This fly will destroy a bee in five minutes. They pounce upon them while alighting on grass or flowers, holding them helpless with their long feet, and inserting their short but pointed proboscls into their chest, they drop with them to the lower part of the stem of a plant and sucking a little while, let their victims fall to catch another. Bee-keepers should be awake, as there is no doubt, but this insect retards the progress of hives more than anything else. The flies are from ¼ to 1¼ inches long, with a long pointed abdomen, marked with light colored wings. Wings transparent, color from yellow to brown. Feet long, strong and hairy. Proboscis (the sucking apparatus) strong, short and pointed. I give this rough description to enable every bee-keeper to recognize them quick. They fly with a short deep "hum" almost like a bee's hum, only shorter and deeper in tone.

Bee-keepers should report on this Insect.

Sigel, Ill. CHAS. SOME.

For the American Bee Journal.

Some New Thing.

This has been an unusual summer for swarming. Notwithstanding I commenced early dividing them. When the swarming season came on, they went into swarming in real earnest. At first I accommodated them with new homes, and gave each swarm a frame filled with brood. All went on well but still they continued to swarm. I then came to the conclusion, as the basswood harvest was just approaching, there must be something done to keep them together, or lose our favorite supply of surplus honey; so I commenced cutting out the queen cells from the parent hives, but almost invariably failed in keeping them together. The following day, out they would come and continued day after day to come out. Finally I concluded to try an experiment something entirely new to me, but perhaps not new to our old experienced bee-keepers. As they refused to accept their old homes, I put them in an empty hive, setting them a proper distance from their first location, then proceeded to take out the frames with adhering bees; examining closely I removed all the queen cells, adding them to the new swarms, I had no more trouble with them coming out. Instead of putting the new with the old, I put the old with the new, having tried the above experiment on some 8 or 10, I consider it a success.

The early part of the honey season was poor, the white clover proved a failure. Up

to the beginning of basswood bloom they scarcely gathered honey enough to supply the young bees. There was an unusual crop of basswood bloom, which began to open about the 1st of July and lasted until the 15th. During that time the little fellows put in full time. I never knew bees to store up such an amount of honey in as short space of time. The hives now are filled to their utmost capacity, with the exception of the comb occupied with brood, leaving no place for the queens to propagate their eggs. I have thrown the honey out of 16 frames, which amounted to 65 pounds, sold in the city of Adrian at 18 cents per lb. I shall use the extractor sparingly, in order to keep them working in the boxes as much as possible. I have now 59 colonies. I calculate I could extract 1500 pounds at this time. I use the Barker & Dicer improved hives with sectional honey boxes. These boxes will stand at par with any I ever used. They can be safely shipped to any part without sustaining the least injury; the retailer can separate each section without injuring the honey, by cutting the paper at each dsvision of the section; each section contains from 2½ to 3 lbs. and when placed upon the table it cannot fail to please the eye as well as the taste.

SAMUEL PORTER.

Lenawe Co., Mich.

For the American Bee Journal.

The Sale of Honey.

MR. EDITOR:—The burden upon my mind at the present time is, the great disparity between the price obtained by our honey-producing fraternity for their product and the price paid by the consumer. Large honey houses in Chicago (for instance) buy up the honey in bulk at 16 cents per lb. for extracted and 25 to 30 cents for comb. Here it is put up in appropriate packages and shipped away again to wholesale dealers in other towns, who in turn distribute to smaller wholesale dealers and retailers. I presume there are none of these middle men handling honey for fun, but each one must make his profit, and the consumer pays from 30 to 40 cents per lb for extracted and, from 40 to 50 cents for comb. Now the question arises, is it necessary for the producer to pay so many shipping bills. I have not found it so in my experience. I put my honey up in attractive style for retailing and deliver it direct to retail dealers who sell it for me and retain 10 per cent of sales for their service. I use the square honey-jar made for the purpose. The smallest packages sell most readily.

My honey has netted over 30 cents per lb for extracted and 40 cents for comb for the last four years.

Cheviot, O. M. NEVINS.

For the American Bee Journal.

Report of my Apiary.

EDITOR BEE JOURNAL:—I congratulate you upon the consolidation of the two great Bee periodicals of America. "Long may it wave," is the worst wish I have for it. I cannot get along without it.

We are having a good honey season here; the best we have had since I have kept bees, (which has only been about 4 years) but I am not going to derive much benefit from it, for I have neglected my bees shamefully all summer. I extracted over 300 lbs. on July 21st from 8 colonies of black bees most of whom had cast 2 or 3 natural swarms. I have now 19 colonies, which will all be in condition for winter before the end of this month, if all goes well with them. I put 12 colonies in a clamp last fall and succeeded in wintering them all through, but lost two in "springing," and two others were so near gone they will have to be helped in order to make them fit for winter; so that I had 8 medium stocks to commence with. I shall try to do better next year.

Nelson, Pa. JOHN ATKINSON.

For the American Bee Journal.

New Method of Wintering.

DEAR EDITOR:—I noticed in your July number remarks upon a new method of wintering bees, by Mr. Bidwell, given to the Michigan Bee-Keepers' Convention, I believe. The manner of wintering is not given, and that is what calls me out to write this article. If Mr. Bidwell has a plan for the safe wintering of bees, he is entitled to as much honor as Langstroth has enjoyed, in giving to the public the moveable frame.

There is nothing so puzzles the bee-keeper as the successful wintering of his bees, seventy-five per cent. of the losses arising from the want of that knowledge. Any man that can show the bee-keeping fraternity a safe method of doing so, is a public benefactor, and should not hide the knowledge of the same from us. I do not charge that Mr. B. desires or is doing such a thing; nor do I expect the information gratis, if Mr. Bidwell does not wish to *give* bee-keepers the same. I would like to know his address, that I might buy the right. One of these two things Mr. B. should do: Either to give the public, through your journal, his mode of wintering, in season for a trial the coming winter, or let us know, through your columns, what will be the price of it. I will be willing to pay liberally for it. If this catches Mr. B.'s eye, I hope he will allow me to know his address, or that you will furnish it if you can, that I may correspond with him. If he or you will do so, I shall be

more than grateful. It seemed to be no secret to many present at the convention, and you could not find the subject that would be more valuable to your subscribers than to get Mr. Bidwell to give through the columns of the AMERICAN BEE JOURNAL his mode of wintering bees. Please give this more than a passing notice, and oblige,

C. D. HIBBARD.

Chips.

MR. EDITOR:—'Tis hot; it's more 'n hot! While the hayseeders are doing their stacking and rosting, and while my bees are pumping the buckwheat and sap blossoms dry, I'm sitting in the coolest part of the house, and enjoying and admiring the industry of Nature's creatures. How grand it is to contemplate how everything is subject to our will! We are the cap-stone of all creatures—all are beneath us! The faithful horse does our drudgery; the cow gives us nourishment, and when her milk ceases to flow in sufficient quantities, she bows her head for the fatal blow, after which we consume her very hide and hair! The tireless bee furnishes us with that sweet luxury with which we are so well acquainted. And the Granger, in his meekness, provides us with the toping-out variety. Oh, how everything is adapted to our wants! especially if we have lots of the "filthy lucre" to get what we want; which I haven't.

While in this cheery mood, I would like to run over the pages of the "Old Reliable" and stick in a few words right and left; and as Bro. Gallup likes to hear the opinion of baby bee-keepers or novices, this is written for his especial benefit.

CAN BEES EAT FRUIT?

It is often asserted by some of the best apiarists that bees cannot cut the skin of grapes, &c. Now, if they can gnaw the edge off of wood, and eat large holes through building paper, and cut through strong cotton cloth, and all this I have seen them do. Why can they not as well cut the skin of fruit, if they wish? But the trouble is, I don't believe they have a mind to; they want direct access to the juice. They will suck corn-stalks, mellons—in short, everything that is sweet; but they will not *dig* for it.

CAN OLD BEES BUILD COMB AND NURSE BROOD?

In the AMERICAN BEE JOURNAL "Adair" says old bees won't build comb or nurse brood. I don't know about the brood, but I've seen them build comb. I saw a handfull of bees last week (Aug. 5,) that came through the winter queenless, and they had a piece of comb built as large as my hand.

WHAT KILLED THE BEES?

Mr. Gallup, as I expected, attributes my loss of bees to the extractor. Perhaps he is right; but then one of my neighbors lost as many—all he had—and had never seen an extractor; didn't know one from a sawmill; he kept his bees in a similar winter quarter as mine. To me, now, it would have been a wonder had they *lived*; it was as cold where I had them as it was out of doors, and occasionally warming them up did the work of destruction completely!

MODEL BEE MANAGEMENT.

I think it cannot be long since that "H. R.," with my "Management of Bees," ever saw the first bee journal, for it *does* seem if he had, he would not mention his hives stuck up on posts, and these wound about with cotton to keep off the ants—perhaps a balloon attached to each hive to suspend it in mid air, would be quite an improvement on his plan. We don't intend to secure a patent on this, so that that progressive(?) bee-keeper may use it if he likes. He still keeps box-hives and considers natural swarming best. Well, no wonder his article reads as if it had been written twenty-five years ago. Forty to fifty dollars' worth of honey from a *single stand!* Well, that explains the value of *his* management. Why, I could get that, if my bees were in the carcass of a lion, as we read about, provided they followed the ribs in comb-building, and these same ribs were arranged to take out, so I could swarm artificially—but read the article and learn!

DO ANTS ROB THE BEES?

Mr. Arga says: "Ants don't steal honey out of the hives." Now, that's strange; for they will steal it wherever else they can get it, and I have an opinion that they make no scruples stealing it from those that give them shelter and warmth.

WILL HONEY CRYSTALIZE IN THE DARK.

On page 178 there are a few words, written by I don't know who, to the effect that it will not. Wonder how the "tarnal light" goes into cellars and inside of a honey-tight cask; for with me it will crystalize in this condition. But perhaps it wasn't dark enough; so I would advise bee-keepers when they think they have their honey in a sufficiently dark place to keep it from crystalizing, to make it a *little darker!*

A GREAT DISCOVERY!!!

Mrs. Tupper says: "Salt thrown into water will keep it sweet." If so, why not feed our bees with salt water, instead of sugar-syrups? But hold on, "Novice"—or any other man! I made the discovery, although Mrs. T. may have spoken of it; but I made the application above mentioned—so keep your hands off. To make sugar, all we have to do is to sweeten water with salt, boil it down, and you will get as nice

a sugar as you ever saw; for salt is so clear and white, you know. When this discovery is generally known, salt will be worth something.

HOW DO YOU LIKE IT?

How do you like to hold up a frame for inspection, with a bunch of black bees dangling on the bottom, so you can't set it down without crushing about fifty; how do you like to have a bee come at this critical moment and plant you one between the fingers? I don't appreciate this sacrifice of the "busy bee!" If I had been brought up in a Christian community, under these circumstances, I think I would swear.

Mr. Editor, there is no use trying to white-wash these honey-merchants; you can't get around their actions, "no how." Say Perrine *did* do the fair thing with some; he even paid two of my neighbors 5 per cent. interest on the money not sent on time, but that don't help my case in the least. I think I and Mr. Bird had better light our lanterns, and, like Diogenes, hunt for an honest honey-merchant.

Yours, J. D. KRUSCHKE.

Berlin, Wis., Aug. 18.

For the American Bee Journal.

Scraps.

The old "AMERICAN BEE JOURNAL" since it lost its founder and head, the late Samuel Wagner, has been moving around considerably, though it has been in good and faithful hands. And now as it has "gobbled up" another journal we can say good bye to the "NATIONAL," but we hav'nt lost it, though it has married and changed its name. *I like the change first rate and wish success to the new order of things.*

Friend Argo says his chickens will pick worms off the bottom board and not touch any bees. I think ours can beat that, for besides getting what few moths there are, they will go up to a cluster of bees and pick out the flies and drones by the half-hour, and I never saw but one take a worker and he dropped it and looked as though he had made a mistake and was sorry for it. How will that compare with king birds?

To the advice to "keep bees" I would add keep *chickens*, set your hives up from the ground and snap your fingers at moths.

Friend Hester says: "I have had no experience with these large single story hives," and, "I should think it would also be quite difficult to contract the space within them to suit a small stock, or to winter even a full stock." We use the Langstroth frame, Adair size, 16 and 20 frames to the hive, and find them to work well. We had but one strong stock in the spring, a 20 frame hive. Made one new stock, bought 5 light ones, and built them all up mostly from the big stocks, and have extracted 34 lbs. of honey besides. The hive has always been full of brood, at least 16 out of the 20 frames, and is now very strong, enough bees and brood for two good swarms.

As to using them for light stocks, that is easy enough; just put in a division board, or two of them, and give them room as fast as they require it. I transferred a light stock from box hive to 16 frame hive; could get but five frames of comb out of it for them; put in the division board and now they are a good strong swarm.

In wintering you can put the swarm in the centre of the hive, with a board or wire division on each side and pack the two ends with clean straw, or shavings which will absorb the moisture and keep the bees dry and warm.

In the old directions for transferring it was always stated to put the brood the same side up as in the old hive. All of us "Novices" thought it was all law and gospel and so took special pains to do it.

We have a glass fish tank and the bees gather around it by hundreds to get the dripping water. While looking at the fish we noticed one bee who did'nt seem to care about the ills of life, for she had a big hole stove in on one side as large as a pin head, the scale sticking out at right angles. The said bee came after a load of water 4 or 5 times in an hour, and we noticed her for several days. How is that for preseverance under difficulties?

A writer in the National some time ago, said in regard to the qualities of Black and Italian drones: "Don't be afraid of black drones, but let them fly if any should be out at this time. Your Italian drones know what is up. You will then have an opportunity to test the superiority of Italian drones over black ones. You will also notice that if there are any black queens flying at this time in your neighborhood, there will be a majority of them fertilized by Italian drones."

Your Italian drones know what is up! Yes, they do, "in a horn." I made three new stocks for a friend, and one of his old stocks raised a new queen. They had hundreds of Italian drones, eleven swarms in all. About a fourth of a mile from them are four of the insignificant black stocks, while in different parts of the town are about 40 stocks of Italians, and no other blacks within a mile. Three out of the four new queens *mated with black drones*, and one or two others that I know of. One of the black stock swarmed, and the new queen in the old hive mated with a black drone;—four black stocks against over 40 Italians. Superior fiddlesticks!

Oneida, Ill. W. M. KELLOGG.

For the American Bee Journal.

Wintering Bees.

On the 31st of October last year, I put in my cellar, 12 stands of bees; and before the 15th of November 120 stands. The cellar is 16x24, and dry. I took from 50 stands from one to five frames each. So ten or twelve swarms had only 3 frames left. The 50 hives had three to seven frames in each. All are 8 frame hives. I took them from the cellar March 17 and 18th, and of the 120 hives but two swarms were dead. I afterward lost 6 more, by being queenless. My bees were never in better condition than last spring. I saw little difference between those from which I took the frames and, those I did not. I would not recommend the removal of more than two frames, and think that beneficial.

When swarming began, I had 98 swarms, which I increased by natural and artificial swarming to 175. I lost several swarms which went to the woods. Swarming closed July 1st. I took with the extractor 6,000 pounds of honey in two weeks, all of which was linden or basswood. Have on hand 8,000 lbs. The crop was cut short by not less than 10,000 lbs.

Of all honey plants I have tried, the Meliott Clover is the best. The drouth does not affect its product of honey. I shall have ten acres in bloom next year. Seven years experience teaches me that it pays to have plenty of artificial pasture.

My lowest average hive, was 40 lbs. per hive old and young, the highest 80 lbs. I think the proper average should be 50 to 75 lbs. each.

My bees wintered so well in the cellar, I have enlarged the cellar to 24x58. and 7 feet high, and shall try it again.

R. MILLER.

Campton, Lee Co., Ill.

For the American Bee Journal.

My Report.

We are having an uncommon good run of basswood honey this season. In fact honey has been too plenty for those not having extractors. I have been moving about with mine pretty lively for the past week, and the experience I have had among my neighbors I think would convince the most skeptical of the usefulness of the extractor, as I have found stock after stock without an egg or young grub in the hive and every cell full of honey, except a very little capped brood. I would like to ask some of those who do not believe there is any use in the extractor, what they would do in that case without it? It is no use to give them empty frames, for as fast as a cell is built and sufficiently lengthened out to contain a drop of honey it is filled, and some hives that I nearly emptied last Saturday (five days ago) were filled again so quick that the queen did not get in a patch of eggs as big as my hand. So much for Michigan. Now a word for the moth.

My advice to those that raise such a "hue and cry" about the moth, is to get a mechanic to make their hives. I do not mean a man that has jack-plane and scratch awl and calls himself a joiner, but a man that can and will fit two pieces of board together so that the worms cannot build a nest between them. Then let your stocks be either strong or weak and you will have no trouble with worms. I have thirteen stocks of bees and I do not think I have found to exceed three or four moth worms about the hives this season, and only one inside the hive at that. The only secret there is in it is this: I make my hives so that there is no crack or crevice in them where a worm can hide, and the bees keep them out. Now all you unbelievers come and see for yourselves. But perhaps you will think as the negro told the Irishman wnen he asked what made him so black: "I'ts the climate." Not so, my friends, for my neighbors have the same climate that I have and some of them have plenty of moth-worms in their hives. They buy cheap hives.

I very often see advertisements of patent hives with moth-trap attachments, etc. Please let me give my experience with a Buckeye hive; moth trap and all. Last month in the natural course of events there fell into my hands a stock of bees in a Buckeye hive, and also an empty hive of the same sort. Two or three days after I got them home they swarmed, and not having anything else handy, I hived them in the empty Buckeye hive (after inserting a couple of cards of comb from the other hive); and to save speculation I might as well remark that I saw the queen safely on a card of comb, and then closed the hive. They appeared to go to work all right but in about 8 or 10 days they swarmed out. I opened the hive and found they had made but very little comb, and that all drone comb. There was not an egg in the hive—pretty good evidence that they had raised a young queen. Now the question was what had become of the old queen. Time will show. I cut out the queen-cells and hived them back again and the first spare time I had I made a hive and transferred them, when I found that the young queen and the swarm were in the body of the hive, while the old queen and a little handful of bees were down in the moth trap!

That was the reason they raised a young queen and swarmed out, by my not expecting any such thing and cutting the queen cells out.

If the traps will not catch Millers, they will sometimes catch queens, so buy one by all means of the first pedlar that comes along. H. P. GALLUP.

Medina, Mich.

For the American Bee Journal.

How One Man Got Rid of his Drones.

MRS. TUPPER :—Your valuable favor of the 8th inst., to hand. The bees reached their home on the evening of the 23rd, in apparent good condition. The next day I noticed some dead ones at the entrance, which I removed frequently during the day with a small wire. Prompted by curiosity and with the hope of relieving the labor of the bees in bringing their dead to the door, I opened the hive in the evening, lifted all the frames out, brushed out and gave the box a good clensing, returned the frames and bees without offending a single bee so far as I knew. I think about half the colony were dead—say one pint.

From book information, I concluded there was a surplus of drones in the colony. How to get rid of them was the question. Drone catchers were patented and what could I do. The laborers were working finely but the surplus of gentlemen of elegant leisure was annoying. With a small bit of paste-board, with a notch one-eighth by three inches long placed over the entrance, settled the question speedily. The laborers could enter but the drones could not. A little squeeze on the head settled the business for them, and to all appearances the colony is doing well. Several of my neighbors want bees and the JOURNAL, but are a little demoralized by the delay of our railroad up the Platte, and think they must wait another year.

D. HAUSBAUGH.

South Platte, Colorado.

For the American Bee Journal.

Wintering Observations.

It has been some time since I have felt like writing to the BEE JOURNAL but now that my bees have done well, I am encouraged to take up the pen again and give my experience and observations that they may possibly be of benefit to brother bee-keepers. Trusting that the wintering question will receive the fullest discussion before another winter comes down upon us with its uncertainties and disastrous results.

I put twenty-six swarms in the cellar November 21st, all except two supplied with natural stores, and nearly all strong swarms. Now, as Mr. Quinby, on page 106, desires to compare notes in relation to temperature, here are a few facts gleaned from personal observation. The portion of the cellar in which the bees were stored was near an outside door, and though banked with straw, during our severest cold the temperature fell two degrees below the freezing point. A few days after, the temperature arose to 40°, and two swarms, one of them upon which all early honey had been extracted leaving fall honey exclusively, showed signs of dysentery. The latter swarm was very large and vigorous, occupying a three-foot hive with Adair size of frame. We had several of these cold snaps and every time the temperature arose dysentery was developed more and more virulent in the large swarms. Until being set upon their summer stand the remainder smeared their combs and themselves in a fearful manner and froze up solid. Now, was it the honey or the cold, or a little of both that accomplished the ruin of this swarm? All of the rest wintered well whether fed on syrup or natural stores.

On the 19th of March they were set upon their summer stands. A careful examination showed no sealed broods except in a very few hives. The queens had apparantly just commenced to lay. In two days after setting them out the weather changed and a cold spell intervened. Upon the next warm day an examination showed no sealed brood but the queens had just commenced to lay, the first eggs of the ten days previous being destroyed. Three times we made these examinations through the months of March and April with like results, no brood rearing and all the while a constant dimunition of old bees, and eventually the swarming out fever left me, by the middle of May, with only six swarms out of twenty-six, and only two of these were strong. These had sealed brood when set upon their summer stands.

With the temperature of the cellar at 40° or 45° the bees were very quiet—about 45° would be my "standard."

During the past winter bees wintered upon their summer stands and were in better condition than those that were housed. I have also observed that during the past three severe winters, bees wintered in a neighboring village where the hives were entirely surrounded by buildings, and came through in the very best condition.

Now having lost heavily and observed closely, let us see if there was not a remedy, if it had been applied in time. Fine food and an even temperature of 45° would have banished dysentary. They would not have dwindled down in the spring if each swarm had been examined and not set out until each had capped brood. This could have been obtained by feeding syrup and supplying pollen. And here let me suggest the experiment of feeding rye meal late in the fall. Will bees work upon it at that time? If they would, a supply might be

stored and reserved until spring.

While extracting we often observe that cells of certain combs are about two-thirds filled with pollen while the other third is filled with honey and capped over. This was evidently put up for spring use. The honey being put in with it for its better preservation. We all know that pollen moulds very easily. Can we not learn something from this fact also? Several combs containing pollen could be preserved in honey. And we want to know what would give the queen the laying fever in the spring more readily than the insertion of a frame of pollen dripping with honey.

We trust these facts will receive due attention during the coming fall.

"SCIENTIFIC."

For the American Bee Journal.

Chips from Sweet Home.

DEAR EDITOR:—Ten years ago we became interested in bees by taking orders for the Thomas Hive. We handled bees some for six years and four years ago Palmer Bro's made a special business of them for two years, then we dissolved partnership and I bought *Sweet Home*. In the winter of '72 and '73 I lost all (54 hives) the bees I had. Of some 700 or 800 hives between New Boston and Muscatine (20 miles) only about 15 or 20 were alive in the spring, and last winter took the most of them to parts unknown. In the spring of '73 two neighbors and I bought 96 hives in Kentucky, I shipped them 80 miles by rail and about 600 miles by boat. I increased my share (40) to 95 hives, this spring had 35 living. I now have (July 10,) 67 hives, am running them for extracted and box honey. I use Longstroth and Thomas Hives, am 29 years old, weigh 140 lbs., have a library of books and geological specimens, have an observing hive in the parlor, the bees pass out and in through the wall, all the workings of the once mysterious hive can be seen by lamp-light or sun; it consists of one comb and glass on each side. Our apiary is shaded by a natural grove. Our Sweet Home Honey Slinger consists of a stationary tub with handles and a faucet at the side or the bottom, and a revolving frame which is run by fanning mill gearing, it is much better than a revolvable can. We carry our combs to and from the hives in a rectangular frame supported by four legs which are long enough to keep the frames from the ground; the frame is carried in front of the peason by grasping the two end pieces; the combs are so placed in the frames that the ends are to and from us. If robbers are plenty we jar it as we enter the honey-room, and if a few follow us in they fly to the windows, which are made *revolvable*, so that a *flip* puts them outside.

HOW WE SAVE COMBS FROM THE MOTH.

The *we* just mentioned consists of myself and a blue-eyed boy of 21 months old, we two complete the family of Sweet Home. We have had a great amount of good comb destroyed by moths. We tried limestone, and last season we hung them on poles in the shade; the wind blew them down, damaging them, but now we have them *safe* at last in our cellar, which is 20x24 feet, having a chimney in the center with a draft-hole at the base which is continually drawing the damp bottom air out; also 2 windows on each side covered now with fine wire-cloth. Last spring we put our combs (enough for a hundred hives) in there, soon we found the moth eggs hatching, it being cold in the cellar the worms nestled closely together and we readily fed them to our poultry; but some few were overlooked and are coming out winged moths and are seen to fly to the windows where I am certain to put my fingers on them. My bee-shirts I have made as others except buttons a little closer on the bosom and elastic in the waist-bands.

While on a visit to Dadant & Son., of Hamilton, Ill., I became very much in favor of using the black-board instead of a book as I had formerly been doing; but seeing C. P. Dadant use a *slate* pencil, I thought why could not slates be used instead of boards, I accordingly procured a few school slates from which I took the frames and cut them in pieces of 2½x3 inches boreing a hole in the middle of one end and hung them on nails, these slates cost me a little over a cent apiece and the cutting is readily done by any sharp instrument and a straight-edge. They are cheap, durable, writing-lasting, and always just where we want them.

Mercer Co., Ill. D. D. PALMER.

For the American Bee Journal.

My Experience.

I have just noticed Mr. C. Hester's "Random Notes" in the June number of the NATIONAL BEE JOURNAL, as we live only eight miles apart, I will give you my mode of operating with my bees last winter, my success this season &c., &c. I have no cellar to winter in, consequently I winter as you may say out of doors, it's true I have them under a shed, and protected from the north and west winds. I went into winter quarters last winter with 14 colonies, at the time I put them up, there was not one pound of honey in the 14 stocks. I fed them sugar syrup, made precisely as Judge Hester did his and fed them in like manner, by pouring in the empty combs, but I fed mine at intervals through the winter, that is on warm days. I came through the winter with 10 stocks losing four, which I

am confident starved, not giving them syrup sufficient. My stocks came through in a very weak condition, the spring being very cold and backward they did not get to breeding until late, but after the weather did begin to get warm, their increase was more rapid than I ever experienced before. Seven of the ten is all I have extracted any honey from during the season, that being so nearly gone, it was all they could do to keep or get up the strength of the colony to make one divide from. I use the double Langstroth hive, and from the upper stories of the seven stocks I have extracted four hundred and fifty lbs. of honey this season, the lower stories contain sufficient honey to winter them through. I have divided to eighteen this season. I will try wintering on their own honey and if I do not have success hereafter I will try Judge Hester's plan, extract all and feed syrup. I must state how I saved one of my pet stocks after I placed them on summer stand. I went out one warm morning about the 20th of April, I noticed the bees just able to crawl from the front entrance of the hive. I immediately opened the house and found the bees on the cards just able to move and the queen on the bottom of the hive as I thought dead. I immediately got some syrup and on examining closely, found my queen with some life yet. I placed some syrup to her and she eat it. I sprinkled syrup over the mass of bees on the cards lightly. I then filled all the empty cards with the same, and in one hour I examined again, found them quite lively, during the day they removed the syrup from the outer cards to the center and this summer that stock has made one divide and furnished me over 50 lbs. of honey ; in one half-hour longer the stock would have been gone. The reason of their consuming the syrup so fast was they were breeding rapidly.

JAS. R. WILCOX.

For the American Bee Journal.

Bee Notes.

There seems to be a perfect dearth of honey ; no flowers, no honey-dew ; nothing but pollen from corn tassels, and, whatever it is, that bees get from fruit. Hives that contained honey a month ago, now have almost none. But for the cotton blossom now unfolding, bees would have to be fed, something the fogies never think of. Bees are doing nothing in boxes, and on inquiry find it to be a general thing ; a state of idle inactivity seems to reign throughout the neighboring apiaries. A good patch of Buckwheat and Alsike clover have been very much needed this year, and it behooves apiarians to see to it that the same state of affairs is not repeated next year. The golden bands might succeed in finding honey, but our black bees have well nigh given up the game. For one, I am anxious to see an accurate drawing and description of *your* hive, and am *now* anxious to know whether or not a different style and *size* of hive (than the one you use) is best for our long and hot summers and short winters. Dr. I. P. H. B., of Augusta, Ga., could give valuable information on this subject. Can't he be induced to give an article for this paper on "The proper size of Hives for the South." I hope so.

S. C. EDGEFIELD.

J. P. Moore, Binghampton, N. Y., says : I commenced the season of 1873 with seventeen stocks of bees, having lost four in the spring, and sold one. Ten were in fair condition by May 20 ; the other seven were much reduced, but by taking brood from strong ones, I was able to build up five of the weak ones by the time honey commenced to yield. The other two I run for increase or surplus queens, and was able by breeding and using my four hives of empty combs, to increase the two to eight full stocks and five half stocks or nuclei. Two of the nuclei died in the winter, and the other three are very weak, (I prefer full stocks for winter), and raised ten surplus queens. The fifteen that the boxes were put on were run entirely for box honey, without increase, as we have things so arranged now that when we have got a hive filled with brood in time to put on boxes, we can have them put all their surplus in boxes, if the queen is prolific, without the trouble of handling the brood.

Hints from Bee-Keepers.

If several days of rainy weather should succeed a warm coming off, they may die of famine, if timely relief of honey is not given them.—*Wildman.*

Queens are not equally fruitful. While some breed slowly or not at all, others will speedily increase in prodigious numbers.—*Keys.*

No true lover of bees, I am persuaded, ever lighted the fatal match that was to destroy his little innocents with livid flames and a smoke that strikes them dead with its intolerable stench, without much concern and uneasiness.—*White.*

It is commonly the practice to rub the sides of the hive with aromatic herbs, or a solution of salt, or other substance. But the most experienced bee-master deems this altogether unnecessary, as it can be attended with no advantage whatever.—*Hacker.*

Always have the cheerful rays of the morning sun fall upon your hives ; but contrive to throw a shade upon their front for a few hours in the middle of the day,

when the weather is very hot. Such a shade will be grateful to your bees.—*Nutt.*

Bees express no more love for their keepers than for strangers, but they (the keepers) being used to them, with greater confidence venture among them, while some (more fearful) beholding, fancy that the bees respect and love them more than strangers.—*Purchase.*

Workers alone have the property of secreting wax. Scales of it ranged in pairs are contained in minute receptacles under the lower segments of the abdomen. * * This substance is produced by a particular organ, after the manner of other secretions.—*Huber.*

When Bee-Keeping don't Pay—What then?

Hogs have been sold for less than value of corn fed in fattening. Cattle brought less than cost of raising. Poultry could be had for less than value of food fed them. Yet all required as much care as if sold at a profit. We would, however, think that farmer very unwise who would quit the raising of live stock or grain, because of low prices or severe winters. If the bee-keeping farmers would use as much precaution in preparing pasturage and shelter for their bees as they do for other live stock, I doubt not that a few years of experience, backed with a comparative table of facts and figures, would convince them that bee-keeping would prove as remunerative as any business in which they are engaged.

The man who expects a large crop of fine fruit each year, without pruning or cultivating his orchard; he who hopes to harvest a heavy crop of wheat, corn, or oats, without properly plowing or pulverizing the soil; he who expects to cut a heavy swath of hay, every year, from a meadow he devotes half a year to pasturage; and the bee-keeper who expects to get a large yield of honey without giving his bees any attention whatever—are all sure to be disappointed with their business, and will declare it don't pay.—*Ex.*

For the American Bee Journal.

Successful Bee-Keeping.

I came through the winter with all my colonies, 36 in number, most of which were in good condition. The spring opened favorably and my expectations were great, but about the 1st of April the rain set in, and I think my bees only worked two days during the whole month. I fed them occasionally, but nearly every queen ceased laying and all the hives killed their drones.

The rain ceased the 1st of May, and the poplar commenced blooming at the same time, but alas! my bees were not strong enough to bring in honey as I wished them to, but to make the best of what could not be helped I commenced doubling up, putting two and sometimes three colonies together and so reduced my colonies to 22, leaving the queens and what bees adhered to one comb in the old hive with a division board on each side. These I would give room as they increased, and have made strong colonies of them all.

From the poplar I took 1032 lbs. of extracted honey which I thought doing pretty well, but when the sourwood bloomed the bees exceeded my highest expectations. From the sourwood I have taken 2004¼ lbs. which makes a total of 3036¼ lbs. and have increased my bees to 69 colonies all in good condition with honey enough to spare at least 500 lbs. which I will take as soon as the buckwheat commences to bloom. The sourwood makes the prettiest honey I ever saw; when poured on the whitest letter paper, you can see no difference in the color of the paper and the honey.

I think this a splendid place for bees. I have lived here a little more than two years and am highly pleased, and right here I would say to any of our northern bee-keeping friends who think of emigrating, that I don't think they could find a place more suitable. The woods are thick with poplar and sourwood besides other blooms in abundance. The water which is pure freestone cannot be exceeded anywhere. The air is pure and consequently healthy and society as good as could be desired. Lands are cheap ranging from 5 to 15 dollars per acre. We have in our midst a great many families who have moved here from the northern States, all of whom are well pleased. These families are all United Presbyterians, have built a large and comodious house for worship, have regular preaching and Sabbath school.

We have other churches near by, Methodists, Missionary Baptists and Baptists, and within a few hours ride, Cumberland and other branches of Presbyterian churches, We have built and furnished a large two-story academy, which is now under Prof. John A. Ramsey of the Indiana State University as principal. Tution has been put down to the lowest figures and no person could find a better place to educate their children.

Any one desiring to learn more of our country can do so by addressing, Rev. J. W. Wait, Prof. J. A. Ramsey, or your humble servant, J. F. Montgomery.

Lincoln, Lincoln Co., Tenn.

For the American Bee Journal.

Where the Linden grows.

Dear Journal: One of your correspondents (R.H.M. I think), wishes to know how far south the Linden grows. I am on the high ridge of land or "divide" between the head-waters of the Guadalupe and the Piedronalis, about two thousand feet above the Gulf, in lat. 30 deg.; and a dwarf or mountain linden grows on all the creeks that flow from the "divide" into these two rivers. It has never been seen any lower down than this, that I know of. I sent to Michigan last March for 50 linden cuttings and set them out in San Antonia (lat. 29, 30 deg., and 750 ft. above the Gulf) and they all perished though I mulched them and kept them well watered. I think the season was too far advanced and intend trying some more this fall. The "divide" is a fine range for bees. I have known one person to have as many as 7 trees at one time, standing in the forest, which he had found by coursing wild bees from water, and I obtained my dozen swarms to start with this spring for nothing.

Texas. S. J. Newcomb.

For the American Bee Journal.

Success in Wintering. Is it Attainable?

Probably no other topic in connection with apiculture has of late been the subject of such extensive experiment and thorough investigation, as the one which heads our article. In view of the heavy losses which have been sustained by American apiaians during the past three years, the interrogation—Is success attainable?—has become one of no small significance. We believe it requires no argument to convince any candid mind, that the cause of apiculture in our country must materially suffer, unless some method shall be devised that will insure more uniform success in "Winter Bee-Keeping" than has been attained during the past few years. 'Tis true that we do not lack for theory to account for these losses in wintering, and demonstrate how the way henceforth be avoided. But the simple fact that many apiaries have again been decimated by that fell destroyer, designated as the "bee disease," is sufficient evidence that there is yet abundant need of further investigation.

Sugar syrup which was announced with such a flourish of trumpets, as being *the* panacea, *per se*, for all our troubles, has been tried and found wanting. A uniformly warm temperature has done better, though not a specific for the "bee disease." And so of other theories; none have proved universally successful.

Please don't infer from the above, that we intend to convey the impression that no one has succeeded. But we *do* say that in sections where the bee disease has prevailed many have failed, despite extra care and exertion to secure the conditions necessary to success.

Really then, is success—complete uniform success—attainable? We believe it is, *provided* the requisite conditions are complied with. But what *are* these conditions?

According to our best authorities, we might enumerate an abundance of wholesome food, prolific queens, young bees, empty comb in the brood nest, a uniform temperature of 40 degrees Farenheit, and ———well, "you know the rest." But are these *all*? Let us see. Bees we are told are "natives of warm climate," where polar blasts and arctic's cold is unknown; where their joyful, busy hum is heard alike in dreary January or bright July. Notwithstanding this fact, the honey bee has vied with man himself in manifesting qualities, characteristically cosmopolitan; having with him become acclimated to many an uncongenial clime. Yet for all this, a fearful mortality has ever and anon, decimated the ranks of "bee-dom" in our more northern latitude, blasting fond hopes and depleting unfilled purses. This has no doubt often been the sequence of carelessness and ignorance, though of late the destroyer has often baffled the hand of skill and science. But must these scenes of desolation be witnessed with the return of each succeeding winter? Is there no "safe retreat" by which success may be attained? Or, are the *conditions* necessary to success unattainable?

After devoting much time and thought to the investigation of this problem, we arrived at this conclusion, regarding its solution: *complete success is to be attained only by approximating the conditions which surround the bee in its native clime.* This involves a point which seems to have hitherto escaped the discriminating discernment and analytical acumen which has characterized the modern Yankee investigator; supply natural conditions and success is yours. But this is impossible. How are we to arrange our bees so that they may fly in December, January, and February where the mercury will persist in neighboring with Zero? Away with your vain tantallizing theories, 'tis impossible.

Be patient dear reader and we'll explain. We, too, thought 'twas impossible, but were mistaken; and here's how we ascertained the fact.

A friend, by name of H. (we withold his real name and address, to save him the annoyance of "a thousand and one" interrogations) thought if he could manage to give his bees an occasioaal "airing" during

the season of frost and snow, it would do 'em good. (By the way, no abler or more successful investigator ever graced the ranks of those engaged in apicultural or pomological science in this or any other country, than this same H.) Thinking and acting are synonymous terms with him, in matters that engross his attention. So on a clear frosty morning in December, he placed three colonies of bees in a "hot-bed," as an experiment. Presently the genial rays of old Sol raised the temperature of the interior so that a few bees came to the entrance of the hives to reconnoiter. "Surely" says the advance guard, "spring is here again; let's have a play-spell and enjoy the bright, warm sunshine." So saying they took wing and commenced buzzing around in good earnest. They were soon followed by their napping comrades(?) and in a few moments longer the "voiding room" was a scene of wonderful activity. In less than fifty minutes from the time they commenced to fly all was quiet again, the bees had had a good purifying flight, and strangest of all, scarcely a dead bee could be found to indicate the "lapse of time." This experiment, so auspicious in inception and satisfactory in results, was followed by others on a larger scale, including about 75 colonies in all. As a result, our friend says that hereafter, his bees will go into a hot-bed in November. He thinks that every colony in fair condition in October can be brought through so as to be in just as good, or even better condition, the following May. He is naturally quite enthusiastic over the success of his experiments and well he may be, for in our humble opinion, it is one of the discoveries of this age of invention, one that will mark a new era in *successful* bee-culture. For, despite cold, snow, and wind, we can give our bees an opportunity to fly almost any day in the winter and spring season, when the sun shines, which makes our success in wintering doubly sure.

But we're getting verbose again—a common fault of ours when deeply interested in any subject———and must close. At some future time we will give the details of management necessary to insure success with this method of wintering; also its effect upon early brood rearing, and other topics connected therewith.

S. Haven, Mich. HERBERT A. BURCH.

P. S. Please *don't* write us, making enquiries relation to bees or bee-culture. Our time is too fully occupied to answer such letters even at "one dollar each." If you wish our opinion upon any given point send your enquiries to the AMERICAN BEE JOURNAL for publication, and we'll cheerfully answer them to the full extent of our ability. Please *do try* and bear this in mind. H. A. B.

For the American Bee Journal.

Southern Bee Notes.

MRS. TUPPER:—I have just received and perused the June No. of the "NATIONAL" with interest. It would give more satisfaction if correspondents would give their parish or country. I live on the same meridian as your correspondent "Y" of La., and although we had a poor yield of honey after the middle of April, we have not thought of feeding. We live on Vermillion river near the sea marsh, and have extensive forests on the southern border of an extensive prairie. "Y" may live east of the Mississippi and I should like to know his surroundings.

During March and early part of April we had a great flow of honey from willow, peach, plum, etc. The great rains, followed by drought, cut off the yield; but for some weeks my bees have revived, as have the crops, from bountiful rains. After two years impartial trial I find different experience from Robert J. Collinson. The Italians are much the easiest handled.—They are also much less disturbed by worms; they are more prolific and make more honey.

In reply to your correspondent R. H. M. page 145, I will state that every southerner knows basswood by the name of linn, the bark of which is often stripped by negroes for chair bottoms, horse-collars, etc. It grows freely here. J. B. RAMSEY.

Abbeville, La.

☞ Who will answer the following question? How to purify wax, and prevent its becoming of a dark color.

S. S. ELLIOT.

My bees have stored about 60 lbs. to the stand, so far this season. It is very dry at present. EDGAR MCNITT.

Centre Village, O.

For the American Bee Journal.

Moving Bees in Winter.

EDITOR AMERICAN BEE JOURNAL:—I am 46 miles from Milwaukee, in the best honey producing portion of Wisconsin. I moved twice between the last of October and 12th of January, 1874. I moved six hives of bees four miles to the city of Milwaukee on a wagon, then 30 miles on a freight train; then 4½ miles on a half-spring wagon over the roughest road I ever saw. The bees were placed in the cellar and 14 days after I gave them a flight. The cellar is dug into a hillside, is covered with wood and gravel, and averages 30 to 40 deg. heat. The 14th of December it was about 57 deg. on the sunny side and I took the bees out

for a flight which entirely cured the dysentery of which I had discovered symptoms. I feed them warm sugar and syrup.

On the 6th of January they were again packed for an 18-mile trip on a sleigh over a rough road, and they were again placed in a cellar. On the 11th of February, they had another flight. I lost but half of one swarm which was caused by a frame getting loose and chrushing them. Who will say bees cannot be moved in winter? I would risk a swarm 200 miles on an express train, if packed so as to let the heat out at the top of the hive—not in front, for then the heat remains in the hive, and the second day the bees are sick. Flat bottom hives are useless in this cold climate—too damp. I make my own, and use no patents.

From 3 swarms bought last May, I have increased to 7, and 4 nuclei, and while basswood was in bloom I could have used the extractor every three days, but I was at home only Sundays and got but half the crop. From one second artificial swarm I took 3½ gallons of white clover honey. Now, the swarms average 60 lbs. per hive. I have sold a few queens. I am partly satisfied with Grimm's sending pure Italians but the queens 2 out of 3 were old. I have raised 15 young queens, and will put them in place of old ones. The bees have cost me $15 per hive on the stand. I will sell as good for $12, in frame hives.

I have handled bees 18 years, 12 of which have used frames.

This morning I opened a nuclei to search for a queen which I knew was 9 days old. I saw a drone just letting loose from her, and before my surprise was over, two bees took hold of a small white string hanging from the abdomen of the queen. These drones were laid in the nuclei, by a fertile worker, which I killed last Sunday.

I can give many interesting facts relating to queens, but have not time now.

JOHN H. GRUNTHER.

Therese, Dodge Co., Wis.

For the American Bee Journal.

Wintering and Springing Bees.

Winter is coming on and bee keepers in different parts of the country are beginning to feel anxious about the pets. The question of all absorbing interest at this time is how shall we winter our bees without fear of a repetition of disheartening experiences of the past three winters and springs.

Now there are half a dozen men in our immediate neighborhood who keep from 20 to 80 swarms each, and have had no loss the past four years, neither have they had any trouble with swarming out or dwindling down in spring, though the two last springs have been unusually cold, backward and unfavorable. All wintered on summer stands and on natural stores and none have any fear of disease or extensive losses in the future. All these parties prepare their swarms for winter upon the same general principles, but vary somewhat in their methods. We will state these variations and give our views upon them.

One plan is to remove two frames from the hive and put a partition board on each side of the remaining frames and bees, lay a blanket over the frames (after putting some sticks across to keep the blanket up sufficiently to give the bees a passage over the frames) put the cap on and pack it full of dry leaves.

It is my opinion that strong stocks thus closely packed find themselves so comfortable and warm that they keep on the move, and consequently consume much more food than they would if they had more space, more air to keep them cooler and more dormant.

Another plan is to leave all the frames in, put blanket on as before and a straw mat over this, with a stick an inch thick across the mat at each end and place the cover on the sticks. This last plan I think is a little on the other extreme as sudden and severe changes of temperature would have too direct a bearing upon the bees, rendering them less dormant, and again consuming more food than is desirable.

My own plan is the medium, thus: put the straw mat over the frames the same as a honey board, then put the cap on and put a coffee sack or any kind of a cloth that will let the moisture from below pass through readily, on over the mat. Tack bits of leather on the edge of the cap to keep cover raised ⅛ of an inch, put the cover on, and a stone on top to keep it there, and they are ready for Jack Frost or any thing that may come.

Our 33 stocks wintered in this way last winter and they certainly did not consume more than 120 lbs. of food each from the time they quit gathering in the fall till they commenced again in the spring, a period of over six months, and a large force of brood reared in the time.

The most experienced apiarians in Europe and America decide that straw is the best material to keep bees healthy in winter that has ever been used for a hive. Quinby, in his excellent Mysteries of Bee-keeping, advises the wintering of bees in straw hives and changing them back to wooden ones in the spring. This material, being a more perfect non-conductor of heat than any other, and at the same time a good conductor of moisture serves the purpose of keeping the interior of the hive dry and sweet with the least possible expenditure of animal heat. Now by placing a well made straw mat (like the sample you have Mr. Editor) over the entire top of the

hive we secure nearly all the advantage of an entire straw hive. It is very important that all the little details in this matter of wintering should be understood and carefully observed. In conclusion I will state a little incident that came under my observation last winter, to show how a little variation (accidental or otherwise) may result in loss. And, to give a hint to some of our writers who still persist that ventilation in winter is, under all circumstances bad for the bees.

Calling on friend Muth about the middle of January I found him (as usual) very busy in the store. But when a bee-keeping friend calls, if the weather is mild, as in this case, the clerks usually have to put in extra licks enough to make his place good while the bees are looked into to see if they are rearing brood, to compare the Egyptian queen with Italian or something of the sort. We were soon on the roof and after going through five or six hives we came to one that was quite damp, the bottom board nearly covered with dead bees, and several knots of dead ones between the combs.

"I can't understand that" says Muth. "I think the cover must leak."

"No there is no leak in the cover, there are two blankets and they are stuck together."

He pulls them apart and finds on the inside of one of them a pretty nice coating of propolis which had nearly stopped the upward ventilation. The discovery was made in time, and a good swarm saved.

Cheviot, O. M. NEVINS.

P. S. We are glad to see the JOURNAL constantly improving in interest. I don't know how any beekeeper and takes any interest in them can afford to do without it. There is not one page in all my back volumes that I have not read more than once, and still I think so much of them for reference that I would not be willing to part with them for three times their original cost. M. N.

For the American Bee Journal.

Bees and Grapes Again.

In the autum of 1872 I had one and one-half acres of grapes mostly of the Concord variety. I also had 24 stocks of bees and there were 160 stocks in and near our town. (By the way only ten lived through the next winter, out of the 160.) Before the Grapes were ripe the bees were working on rotton apples and sound ones also when the birds picked into them; but when the Grapes ripened the birds and tame fowls picked into a great many of them, and then, but not till then, the bees were all over them by the thousands, but not once could I find that the bees opened the grapes first—only working on those already open, and I watched them closely. There was no honey in the flowers and the bees were everywhere, around stores, cider mills, and any place where anything sweet could be obtained, no matter how much acid was mixed in. I think this is the first cause of the great loss of bees here the next winter, as forage was so scarce that they almost entirely ceased raising brood by the 15th of September, and all that were already hatched worked nearly their time out before cold weather set in, and were too old to start into winter. The honey they gathered, too, contained so much acid that it helped the cholera along. Then the unprecedental cold winter finished the business for them. But I am digressing. We had but few bees here the summer of 1873 but what there were worked on grapes again in the fall. As before I could not find that they were the first to begin, but only picked up what would spoil. I shall give my attention to it again this fall as I have the grapes yet, and a good crop too, if nothing happens to it. I do not even think they will work on damaged grapes at all if there is any honey to be gathered from flowers. We now have some 60 or 70 stocks of bees here, mostly Italians, of which number I have about 25. They did well in June and the first part of July, but since then, until yesterday, it has been very dry; and they only got enough to keep brood well going. They are at work now on buckwheat. We "bee-keepers" furnished the seed for a neighbor to sow about 10 acres and the bees are just swarming on it. I sent to Wisconsin and got the seed and it is the best variety for honey and grain also. Wishing the consolidated JOURNAL success I remain Respectfully, J. W. CRAMER.

Knox Co., Ill.

Jefferson County Bee-Keepers' Meeting.

Pursuant to a notice for a meeting of the Bee-Keepers in Jefferson County a goodly number assembled at the farm of Adam Robisch, three miles north of the village of Jefferson, August 16th, 1874, for the purpose of organizing an association and discussing the different vital questions arising in bee culture. There were 15 bee-keepers present and reported that over 2400 stocks of bees are kept in the neighborhood of the village of Jefferson. but they could not report the yield of the surplus honey at the present time, because bees are not through making honey and that nearly all of the comb honey is in the hives yet.

The meeting being called to order the following officers were elected:—C. Grimm, President *pro tem* and William Wolf, Sec'y.

Moved by A. Robisch, that a committee to be appointed by the chair to present different questions to be discussed in this meet-

ing. The committee reported the following questions to be discussed. Is the Italian bee superior to the Hybrids or Natives? 2. Is artificial swarming as good as natural? 3. Is upward ventilation necessary after bees are housed in the cellar as repository? 4. Is the single hive as good as the double-story hive for extracting?

All the above questions were warmly discussed and the result to the first question was, that Italian are not superior to a good Hyrbrid in storing surplus honey in boxes, but are superior in gathering honey when empty combs can be given and extracted. Natives or Blacks are nowhere. The second question showed a large preponderance in favor of natural swarming, and artificial swarming or dividing should only be done when a quick increase of stocks are wanted. The opinions to the third question was general, that upward ventilation should be given to bees in damp cellars or repositories, but are not necessary in dry places. The fourth question was answered to that effect that the single story hive is preferable in a mild and cool season, but in a hard season the two story hives are better for extracting honey and handier for handling the bees when we do not extract.

Moved by Wm. Wolf, not to organize and elect officers this meeting, but to appoint a committee of three to draw a constitution and report next meeting, carried. Wolf, Fuerbringer and Roepler was appointed to serve as said committee. Meeting adjourned until the 13th day of September, 1874, at one o'clock P. M., at Wm. Wolf's residence.

WM. WOLF, Sec'y. *pro tem.* C. GRIMM, President *pro tem.*

For the American Bee Journal.

Chips From Sweet Home.

Many bee-keepers are like ourselves—few bees and many hives and combs. How can we get a quantity of honey and a large increase?

We will tell you how we do. Many of our hives were very weak. We took from the strong and gave to the weak, till we had all strong. Then from our best queen we raised queens, and as soon as they were ready, we formed nuclei by taking two combs and cutting out brood and adhering bees, from two different hives. These we put in a new hive on the right side—as we face the hive—and put in a division board. A few minutes or an hour after forming we give them a young queen. Or another way, but a little more trouble, when your queen cells are capped—on the eighth or ninth day—put one in each comb, and leave one day to fasten; then give one of these frames to nuclei, and all or more bees than adhere to the frame and comb of cutting brood from another hive. We mark on our slate, "Aug. 2.—Got y. q." In five or six days we look at them and if queen is seen, we say, "Aug. 7.—Saw q." If she is out of the cell, and we don't see her, we write, "Aug. 7.—Q. out." In a few days we examine and find the queen laying; we mark, "Aug. 12—Eggs." If the weather is warm we look at them in four days, but if cool, not for six or seven days, and supply them with a comb of cutting brood and an empty comb, and write on slate, "Aug. 16.—O. K." Thus we continue, and in from two weeks to a month we make a strong colony of them. If they fill in too much honey, we sling out, so as to give the queen "elbow room." When every comb is full of brood and the hive crowded with bees, we put on our boxes; or, if we wish to sling, an upper set of combs. If for box honey, we take off boxes once a month and put those combs with most brood outside, and those filled honey, we sling and put inside—thus we keep a greater quantity of brood rearing, and consequently more honey stored. When we have tested the queen we mark on slate, if pure, "I. Q.," if hybrid, "H. Q. 1874."

Readers will remember that Sweet Home has a continual average flow of honey the whole honey season.

We wrote "Novice" about the slate, and he speaks of them in a manner to appear as though we carried a "slate and pencil" around with us, and then he refers to his "Queen Register Cards," illustrated in his number. (See *Gleanings*, page 267.) These slates are the cheapest and most convenient register we have used. When we wish to make a new entry on the slate we erase the old. Sometimes we would wish to make a note, which we could not do on the slate. If we have anything special, we can write on out side of slate—such as "Feeding or gave queen, or queen cells, Aug 4," etc.

Eliza, Ill. D. D. PALMER.

A Proposition.

"Can the time of Swarming be controlled?

We know if we place a queen cell in a colony of bees without removing the queen, the cell will be destroyed.

The writer proposes the following experiment to his aparian friends: Isolate one or two combs from the rest of the hive, without removing them from the hive, and so arrange the division board that the bees may retain the same scent, and let the bees make queen cells. At the expiration of eight or nine days withdraw the division, whatever it may be—whether of glass, wood, or wire cloth, or a combination of all three—and as the bees are of the same scent, it is possible the old queen may depart with a swarm. C. C. MILLETT.

Notes and Queries

I see noticed, in your excellent journal, that in weak colonies the queen often lays two and sometimes three eggs in one cell. Now I would like to ask what is the result? Do bees remove one of them, or do they destroy both, as only one bee can be raised in a cell? GEO. D. SELVINS.

It is said that the bees eat their surplus eggs. We never saw them do it, and we never saw them remove them; but they probably do one or the other.

The Limdon was very rich with sweet in this part of the State. I have taken from one stock, between June 17 and July 24, over 200 pounds surplus. L. J. DIEHL.

Good enough for one stock.

MRS. TUPPER:—Inclosed you will find two samples of honey, one taken last fall and gathered from a species of Coreopsis improperly called here Spanishneedles; the other was gathered from honey dew and is as good as any of the spring honey I have ever got here.

We have generally two honey harvests in this part of Illinois during the year. The first from the 1st of May to the middle of June, the second from the last of Aug. to the last of September. The fall harvest is without question the harvest here for honey, in quantity as well as quality the bees storing it with surprising rapidity.

The spring harvest I intend to use hereafter exclusively for increasing and strengthening my colonies, letting them keep all their honey gathered in the spring until the hot and unusually dry season of July and August when it is usually all gone before the fall harvest comes on.

I know the above is not the instructions usually given but I am satisfied if a man wishes to make bee-keeping a success he must study the resources of his own locality and govern himself accordingly. The natural instincts of the honey bee are the same north or south, but the manipulations of the apiary has to be varied according to climate, honey resources, etc. I winter my bees on their summer stands. I expect that some of your readers are ready to say how improvident, but I have wintered in that manner for the last 15 years and have never lost a single colony in wintering and never saw a case of dysentery, neither do I want to; how many of your readers can say as much? I am satisfied with the results but would not recommend it to my brother bee-keepers as a pattern, believing as I do that it is the superior quality of the honey gathered in the fall that produces the result. Respectfully, D. M. L.

Clay Co., Ill.

The honey sent is of excellent quality, and both kinds are new to us in flavor. Our correspondent is correct in his premises and in his conclusions. We *must* study our honey resources and the season of them and adapt our management of the bees them and to the climate where we keep them. Let us hear from bee-keepers in all parts of the country.

DEAR EDITOR:—The first stand of hives I bought was two feet long, eighteen inches wide and eight inches deep, and a cap of equal size for boxes. Shall I continue to have hives made like this or change at once? These are easily and cheaply made, and if one does not intend to use an extractor, will they not do?

A swarm came from a hive like this the 1st of June. After great difficulty they were prevailed upon to settle and go into a new hive; they were not contented, and in a day or two went back in the old hive—they seemed to gather in the honey-boxes above. I then removed the honey-boxes to the new hive and placed it where the old one had stood, removing the old one ten feet away. At this time both swarms seem contented, although the old one for a time would have great clusters of bees hanging about the entrance. The old swarm seems to be making no honey in the boxes.

The new swarm has filled, perhaps, one-third of the lower chamber with beautiful, white comb, and partly filled with honey. I drove the bees from two of the boxes. I had moved and turned them upside down. The remaining box was partly filled with honey—it is always full of bees, and the honey in the cells seems to be getting dark and they add nothing to it. I fancy the queen went immediately to this box when she re-entered the old hive and is rearing brood there. This may be a very absurd idea. If so, I shan't be offended if you laugh. The new swarm certainly must have a queen or they would not work. If they have her now, they must have had her during the week that they remained in the old hive before I removed the boxes.

MRS. VIRGINIA C. MEREDITH.

Your form of hive is as good as any can be that has no movable combs—but these are really indispensable to successful bee-keeping; because, they enable you to find out at any time the exact condition of your bees, and if anything is wrong, to apply

the remedy. Make the hive as simple as you please, but have movable frames in it. If you do not want to use the extractor now, you will soon find it a great help in keeping bees strong, and making them profitable.

You managed well with your bees, and your "fancy" that the queen went into the boxes is true, no doubt.

DEAR EDITOR:—Is there any rule about using the extractor? Would you extract all the frames in a hive but those containing brood and larval, queen cells, &c.? or would you prefer taking the outside frames?

Where you extract thoroughly, is it, in your experience, that they will fill boxes at the same time?

2. Is there any danger in opening hives after the bees leaving—say twice in a week? An old bee-keeper says there is; that they know more than we think, and finding their stores unsafe will be apt to leave. He is a man of intelligence and large experience, having made a business of bee-keeping for many years.

3. Would you expect any trouble in introducing queens to queenless stocks at the close of the basswood season? I wished to do so, but the same authority dissuaded me from it—although I should have bought them of him—saying they would certainly be destroyed. My opinion is that he is wrong. Please enlighten me.

E. LAMBE.

We have no rule about using the extractor. During a good yield of honey, would always take all we could get without disturbing brood. At other times would take only enough to give empty cells for the bees to cluster in.

We have had bees work steadily in boxes while we were extracting honey from the main hive, every third day—but these cases are the exception, not the rule. When able to use the extractor, we don't put on boxes, with our present light. Mr. Dale, a successful bee-keeper of our State, writes us: "I know that extracted honey can be produced for at least one-third of comb honey." We make even more difference than this in the value.

2. There is no danger in opening hives too often, if there is any object in it. We have opened hives to show visitors queens of special interest every day for weeks, and had them do even better than other hives seldom disturbed. One colony containing a queen of remarkable beauty, several years ago, was opened nearly every day for the season, and we obtained that year 196 lbs. of honey from it! No bees ever left because too often handled.

3. We prefer to introduce queens late in the season. It is, for us, *the* time of all others, but there is no risk at any time, if it is done in the right way.

DEAR EDITOR:—In the June number of the BEE JOURNAL you are asked for a description of the bee quilt. I am a beginner in the culture of bees, and wish only for further information as regards the quilt. Is it to be kept on in addition to the cap? Do you recommend its use for the entire year, or for winter only? If kept on during summer, will it not interfere with proper ventilation? MRS. R. F. GREEN.

We would keep it on the entire year, except when we put in extra frames or boxes. Is is laid over the frames instead of any honey-board. It will not interfere at any time with necessary ventilation.

I am just a beginner in bee-culture, and look for you to help me along.

I started last spring with one colony of Italian bees; increased it to three that summer; two died through the winter, and left me one very strong, good, healthy colony. I looked to them in June (spring was exceedingly late here) when they had some brood, and some honey. I again looked to them the 17th of July, and found plenty of bees, a good deal of brood, but not an ounce of honey in store. What can be the matter? Is there possibly too many drones in the hive? How many drones should there be in proportion to the bees?

How long before a hive can safely be moved back again, after having been replaced by a newly made colony?

There is an abundance of lucern, alsike, red clover, and flowers around the bees, so they do not starve, and it seems unnatural that they should gather no more than what they consume.

MRS. HELENA MADSEN.

We should say that honey had not been very abundant in your locality; and bees being not very plenty in the hive, it had taken all they could gather to raise bees, and they had none to spare. A dozen drones is enough in a hive, if you can prevent the colony raising more; indeed they would do well without any, *if you could make them think it so!*

We would not move the hive back, after

being replaced by a new swarm, until another season.

Bloom may be very abundant, without yielding any honey. It depends on the state of the atmosphere. If there is honey, the bees will find it in all cases.

DEAR EDITOR :—I would like to know something more about those small frames that you use in place of small honey-boxes, to get comb-honey.

1. What shape is best to use, in order to get the bees to work in them the soonest?
2. How do you make them?
3. Do you put them in glass boxes upon sending them to market?
4. What sized boxes then?
5. Does not honey improve in flavor the longer it is in the hive above the bees, after it is sealed over?
6. Does not dark honey cause the bees to build dark combs?

Mercer Co. Pa. PETER MOYER.

1. We do not think the bees have any preference for one shape or size over another.

2. We make the frames 6 inches deep by 9 long, as that size is as good as can be for market.

3. Make them just like the large frames.

4. We put them in glass boxes for show sometimes, but it does not pay.

5. The honey is best when it is removed as soon as sealed over.

6. Some dark honey is stored in light comb seemingly made from the same honey, but the honey from Golden Rod is very yellow in color, *if bees build any comb to store it* in, which is not always the case, as bees are loth to build comb late in the fall.

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1. What is the best manner of wintering surplus queens?
2. Is box and frame honey sold by net weight, or is the weight of box or frame charged for same as honey?
3. Are hybreds from black queens as good honey gatherers as hybreds from Italian queens?
4. Has any one tried the queen nursery with a special entrance away from the main entrance to the hive? and with what success?
5. I am experimenting with a nursery on top of the hive, with special entrances to the queen cages. Has any one tried that plan? and with what success?

W. C. P.

1. We have never succeeded well in wintering surplus queens, not well enough to give advice in the matter. All we ever brought through, except in full colonies, cost us more than their value.

2. We sell it always by gross weight, but to do this the boxes and frames must be made very light.

3. We think not.

4 & 5. We have not tried any such plans. Let those who have, report.

Will you answer through the JOURNAL these questions.

1. I have two queens that breed drones. That for the first two or three weeks their eyes are bluish white, the color of skim-milk, I never saw the like before, nor have I ever seen one word from writers, on this feature of drones. Their head is often white as well as the eyes; now if this is any mark of purity we all ought to know it as soon as possible.

2. I had a hybred queen; her progeny were as black as any. I killed her. They built queen cells. I destroyed all, as I thought, and put in cells from a pure queen, but I had missed killing all the young queens, so one day I had the mortification of seeing a large swarm start and go to the mountains. This was a young queen not fertile. Now tell me will the swarm stay in a tree while she goes out to meet the drones? this also is a question we all ought to know. WILLIAM REYNOLDS.

Westmorland Co. Pa.

We have never seen any drones like those described. Should regard it as a freak of nature—instead of a mark of purity or impurity.

As to the young queen who went with her bees to the woods—she would probably be fertilized before reaching the tree; if not, the swarm would be affected by her uneasiness and come out when she did, flying round until she was ready to return with them.

Can bees be taken from Detroit, without honey in the hive and but little combs, and carried south to some good locality in Northern Georgia, Alabama or Mississippi—during the last half of September, and after that gather *honey and bee bread* sufficient to winter them?

Should I carry them on cars—tarvel with them in person—feed them, &c., on route. Please give your opinion and designate some good localities, also give address of any southern bee-keeper, and ask several to write me and send particulars.

There is no trouble in moving the bees, prepared in that way, to any point of the

country—at any season of the year ; but whether they would gather honey and bee bread to winter on after arrival would depend on where you went—if they did not do it you could feed them with sugar syrup.

Will some southern bee-keebers give advice as to locality.

Dear Editor :—According to promise I will let you know more of my experience about bees. When I first commenced with bees, being a professed bee-hunter, I went to the woods and found my bees, many of which went in at the root of within a few feet of the ground. I cut them off a suitable length and transferred them home and from them I obtained a good swarm. Lumber at that time being scarce I went to the linn timber and found some with small hollows and cut them suitable lengths and with thin long wedges hollowed them as thin as I wanted which should be 1¼ or 2 inches thick put on a tight head and good cap, with a few holes to communicate with the hive, and four pieces of timber nailed below, outside, for legs, to stand one or two inches from the ground, and when I had a swarm I set on the ground where it suited best, and my bees did well. As long as I used good round hives there was no trouble about wintering, and to this day I believe bees will do and winter better in a good round hive than a plank one. At the beginning of cold weather take long hay or rye straw and twist a rope and wrap your hives from bottom to top and let them stand where they summered, and I will guarantee the bees to winter without much loss. My bees have never wintered so well as in the open air in plank hives and it is essential for them to be sheltered from cold storms in plank hives.

It makes no difference how well a plank hive is made, wet and dry, cold and hot, will shrink and swell more or less, and let the cold penetrate to the bees ; and if I could easily obtain round hives, I would never put bee in any other ; for I can put frames, in round hives, with but little more trouble than square ones. For commercial bee-raisers, who want to sell bees in place of honey, artificial swarming may do, provided they can find buyers, but for those who want surplus honey, I would advise to let bees swarm themselves. They understand their necessities best; if there is a flush honey season and fair weather, bees will always swarm in good season; if otherwise, I would rather they would not swarm. One swarm in one season, is all I want my bees to do. If more than one swarm occurs, the old hive and second swarm, are both liable to become a prey to the moth. The only security against the moth, is the strength of the bees themselves. I have lost no strong colonies by moths, but several weak ones. All careful bee keepers should aim to keep strong swarms; if any are weak double them. One strong swarm, will make as much honey as two or three weak ones. A plain movable comb hive is a good thing, but an expensive, complicated hive, is what honey raisers don't want. Artificial swarms have never satisfied me, as well as natural swarms; therefore I bid them good bye. G. Trullinger.

We give Mr. Trullinger's opinion of "artificial swarms," as he calls them—being always glad to give both sides of any point, but we think, if he will divide his bees judiciously, and give it a fair trial, he will come nearer agreeing with us, than he now seems to do on this point.

I have one stand of bees *numerous* and in a thriving condition. Have raised a good many young, but do not show disposition to raise young queens or make much new comb. The hive (American) being nearly full of comb which they are filling with honey. Please advise the best course to pursue and oblige

Butler Co., Kansas. C. M. Humphrey.

Bees will not build new comb while they have old comb to fill—they only build it when they need it.—We would, in such a case, divide the colony if early enough in the season to make it sure that both colonies would fill up for winter;—if too late for that, let them alone.—We notice also that bees seldom swarm or make preparation to do it *while they have empty comb*; though they often swarm when the hive is half full of comb, leaving plenty of room to build more.

We have a plant growing here called bur-weed, some call it stick-tight, which is some of the greatest honey to fallen plants in existence. It blooms from May 10th until the end of June. It makes honey of a beautiful flavor, but dark, about like buckwheat. Now if this should find room in your schedule of bee seeds; and if you would like to invest, I can furnish it to you by the bushel. C. G. Silyer,

Mason Co., Mich.

We know that the honey from this plant is abundant, and of very choice flavor. By some it is esteemed one of the best, but we cannot advise any one to sow a weed like this, while there are other things,—like Alsike, white clover, rape, &c., that have a two-fold value.

With us, this weed is called "stick-tight." It is a great nuisance, if it does produce honey.

DEAR EDITOR:—My husband has a few stands of black bees which we manage on the old fogy plan, and I often have to hive them when he is absent. I like bees (although they sting me sometimes), so my husband has offered to give the bees to me, if I will care for them and study bee-keeping. A friend handed me the February number of your Journal to read, I am well pleased with it, and think it is just what I want.

It is a question, with the people in this country, as to whether bees do as well on a fruit farm. Some think they do better on account of so much peach and apple bloom; others think that eating so much ripe fruit is against them. Will you please give me your opinion about it? We have a large peach and apple orchard, some pears, grapes and strawberries.

MRS. D. SHELTON.

A fruit farm is one of the best places for bees. The bloom in the Spring just when they need the stimulus must counterbalance all injury from ripe fruit, of which none complain; we have never had any trouble, though always keeping bees near orchards.

DEAR EDITOR:—Enclosed please find a specimen of bees that are dying from a disease that is unknown in this vicinity; I cannot find any bee-keepers in this part of the country that know anything about it. It resembles the nit of a louse as much as anything. Whether it is a gum that they gather, or get on their feet, or a louse, or something else I cannot tell. Did you or any of your readers ever hear of such a pest. A great many bees are destroyed by it in this locality. This season has been uncommonly dry, and that may be the cause. I have 14 swarms in the Kidder compound frame hive, and every swarm is enfested. All they do is to fight and carry off the diseased bee. WM. H. PAGE.

Branch Co., Mich.

We have never seen anything of the kind. If any one has noticed or heard of it, that can give any reasonable explanation, let us hear.

DEAR FRIEND:—Our only colony swarmed 15th of May; we had intended to divide them in a few days. The new swarm was very large and filled their empty hive with comb, brood and honey. In about two weeks, we then put a large honey box on the top (King's patent hive) which was also nearly filled in about ten days, when they made a feint at swarming; came out, making a great noise, flew around, most of them lighting on a tree near by, but soon left and all went back to their old hive again.

Question. Why did they do so, and what should we have done with them? The next morning we divided them, as recommended in the April JOURNAL, only as we could not find the queen and there was no queen cell started, we put four frames of brood and honey into the empty hive, instead of two; moving the old hive to a new stand, which they soon refilled, but on examining it the other day, I found the new combs had no brood or eggs in them; nothing but honey.

Question. Is that a proof that they have no queen?

The other hive of that division is building up very slowly. I put young brood in it that they might rear themselves a queen. The hive that the swarm came out of, May 15th, we divided about two weeks afterwards, fearing they would swarm again. The hive left on the old stand is about built up, but the one we moved away is quite weak, and I think queenless. We have added young brood and empty queen cells. It looks as if a queen had hatched. How shall we strengthen it?

What shall we do to keep the bees from building crooked combs? We have waxed the frames, but for all that they will run them together. Do you know of anything that will prevent swelling from bee stings? I do not mind the hurt but I dislike the swelling, particularly when it blinds me for days. BEULAH E. BETTS.

To question first, we answer that when they swarmed and then went back, the queen for some reason could not fly. From your account of what followed, we judge that she was lost in the grass or in some other way, and that when you divided and found no queen, there was none there! Both parts therefore had to rear a queen.

As honey was being gathered fast, then, they would store a great deal before they had a young queen ready to lay, and therefore the combs would be full. We think by this time you can easily tell if they have fertile queens.

Strengthen the weak one by giving it a frame of brood, ready to hatch from one of the others.

To have combs straight it is necessary to pay attention to the hives that are building comb. Direct the bees a little by turning any piece round that inclines to be crooked.

Start them right and they keep so. When you have straight combs already, put an empty frame between two full ones, and it must be built straight. We now allow no other comb building done, except between two straight worker combs in any hive.

Cold water applied at once, will in most cases prevent swelling from bee stings. The German Bee Sting Cure, advertised, is highly recommended. After all, prevention is better than cure; and when you learn to handle bees more easily, subduing them before opening hives, you will have no trouble from stings.

I had a new swarm that came out June 14, with a queen of fine size, but it has did no good in the way of young brood. It has laid no eggs. I would like you to state the cause, and oblige,

T. H. BASKETT.

We can give no cause, and would wait no longer for her majesty, but replace her with another, or brood to rear one. As it was a natural swarm, it would seem you must have drones.

DEAR EDITOR:—I write to you to get a little information.

1. Will bees gather honey and bee-bread, and store it in the hive when they have no queen?

2. Does the queen lay according to the population of the stock?

3. When there are but few bees in the hive, and the queen two or three years old, and does not lay eggs, is it not time to have a new queen?

4. What is the best way to make bees make comb? as I see a journal says: "if any one contemplated bee-keeping, he should spend one year in raising comb, then the next year he would be prepared to make bees pay." G. D. CAPEWELL.

1. Bees will gather both pollen and honey and store it when they have no queen. At such times they accumulate much bee-bread, because that is made for and consumed by the larvæ.

2. The queen seems to lay not only in proportion to the population of the stock, but to the amount of honey they either have on hand or are gathering. They seem too wise to use up all their stores to support brood, at the risk of their own starvation. But when they have a good surplus on hand, or are bringing in freely to the hive, then the queen lays in proportion to it. If there are workers enough all the eggs are cherished; if not, some are lost.

3. We would not destroy such a queen until we had given her more bees, or put her into a strong colony. Have seen a queen in a nucleous, that hardly deposited any eggs; on being removed to a full colony, make one of the most prolific queens we ever saw.

4. We know of no other way to have bees make comb, than to provide large numbers of the bees with empty space, and plenty of honey, (if they do not get it) and arrange with the "clerk of the weather" for an unusual number of hot days. The gentleman referred to should "rise and explain."

1st. What is the difference in quality, if any, in honey from flowers of a tree, and honey from the leaves of the same tree known as honey-dew?

2nd. Will an Italian queen pure in her birth—mating with a black drone, ever produce entirely black workers?

3rd. Or will a hybrid queen mating with an Italian drone produce hybrids only?

J. A. E.

1st. There is no similarity either in taste or color. Honey stored from honey dew, so far as we have seen it, is dark in color and peculiar in taste—no matter from the leaves of what tree it is gathered.

2nd. An Italian queen so mated will produce some perfect Italian workers, some with one and two bands and many geninue black workers, as black as those from any black queen.

3rd. We have seen a hybrid queen, mated with an Italian drone that produced uniformly beautiful Italian bees—we never discovered one poorly marked. This is an exception, generally, we think a hybrid queen so mated would produce all kinds of progeny.

What should be the width of a hive, from one inside to the other, to contain 9 frames, and what would be the consequence if it should be a ½ inch or inch larger or smaller?

MRS. G. W. CHURCH.

Thirteen inches from one inside to the other is the orthodox width to contain nine frames. If it should be half an inch smaller it would crowd the combs too much; if half an inch larger it would not matter so much, provided the frames were all kept, in the first place, adjusted to their proper distances, and the vacant space kept at one side or the other. Some bee-keepers always allow a margin in this way, to secure more care in taking out the first frame. When it is so left, care is necessary when honey is plenty, to prevent the bees filling the vacant space with comb.

The American Bee Journal

W. F. CLARKE, Mrs. E. S. TUPPER, } Editors.

SEPTEMBER, 1874.

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Work for the Month.

Now is the time to look after surplus honey. Little or none will be stored during the remainder of the season, except where buckwheat abounds. Where there is abundance of buckwheat, it is well to empty the combs by the use of the extractor, and leave the bees to store up the buckwheat honey for themselves. They appear to like it, and to thrive on it, quite as well as on that which is more desirable for table use.

No good end is gained by leaving honey boxes in the hive after they are filled. Some think it is a protection against the moth miller, but better protection can be secured by removing them to a dry, cool cellar. Should any moth eggs hatch, the larvæ can be quickly destroyed by a dose of brimstone smoke. If boxes of honey are left in the hive, they are apt to depreciate in value, owing to their becoming dark in color, as the result of the bees running over the combs. Not unfrequently, too, the surplus honey is all carried below, to the surprise and disappointment of the overconfiding bee-keeper.

It is therefore on various accounts desirable to remove the sulphur boxes as soon as the cells are filled and sealed over.

There are several ways of doing this, but the method adopted by Captain Hetherington is as good as any, and better than some. It is as follows :—Slip two pieces of tin under the box, then remove the box with one tin, which will keep the bees in, while the other tin will keep the bees from coming up from the hive below. Now turn the box bottom up on a board and place an empty box on it, removing the tin to let the bees pass up into the empty box. Remove and treat all the full boxes in the same way, rapping on them if necessary to force the bees to go up into the empty boxes, then slip the tin under each box and place them on the hive, when both tins should be withdrawn. Any boxes in which a few bees remain may be placed in a dark room with a small window, or a tub or barrel, covered by a thin cloth, which should be occasionally turned over to allow the bees clustering on the under side to return to the hive. Paste a paper over the holes in the boxes to keep out bees, ants, or moth-millers.

There is never any difficulty about selling nice, fresh, white, virgin honey, stored in clean boxes, and look so lusciously tempting that even an ascetic might be expected to bid a liberal price for it. While broken and black looking honey goes a begging for a market, box-honey in A 1 condition is always in demand. Generally speaking, as with other products of the farm, so with this, it is well to seize the early market. But very little is gained by holding over for better prices. Often there is waste and loss as the result of delay.

When the yield of honey fails, it is well to take precautions against robbing, especiallly in the case of weak stocks. Contracting the entrance will usually prevent this trouble. Bees are brave defenders of their citadels, if they have a chance to resist attact. Too wide an entrance gives the advantage to an invadading force. Make the entrance a Thermophylæ, and the bees will defend it valiantly and successfully,

even though the colony be not a strong one.

Stocks that have swarmed should be examined, to see if they have fertile queens. Though a sight of the queen may not be obtained, yet the presence in the hive of of eggs and larvæ may be taken as evidence that there is one. Queenless colonies should be supplied with a queen-cell at once, and, if necessary, strengthened with bees and honey. It is well to have some surplus queens on hand to give to queenless colonies, even if they are not as pure as could be wished. "Better is a living dog than a dead lion." A common stock can be Italianized another year, but an extinct stock is a dead loss.

A careful inventory should how be taken of the condition of the apiary as to stores for the coming winter. Such hives as need feeding should be marked, and preparations made to give their inmates an opportunity of laying in what additional supplies may be needed. They must be furnished with syrup or whatever food it is determined to give them, before the nights get too cool to admit of their working. To guard against robbing, which is very apt to take place during the feeding process, they should be fed in the evening, so that before morning their task of storing will be done, and no unusual stir be observed by other bees, else marauders will be attracted, battles fought, and stores pillaged. If any stocks are weak in numbers, as well as deficient in stores, feeding will have a tendency to stimulate the queen to lay, and the hives will become recruited with young bees, before winter sets in. C.

Honey Resources of the Prairie.

The question very frequently comes to us, "Can bees be kept on the virgin prairies of the West?" The impression seems to be general that away from timber there is little for bees to gather after May. This may be true in a measure; after the prairies are settled up and many cattle are kept that eat the pasture close—weeds, flowers and all. But on the new prairies there will be found most abundant bloom, all kinds of which afford honey in honey weather. Reports from those who have tried keeping bees in new sections of the West have been good, invariably. On a recent trip by stage, over a hundred miles or more of prairie, fellow-passengers remarked "there was no chance for bees here, away from even the sight of a tree!" We called attention to the flowers on every hand, of several varieties, besides the countless acres of Golden Rod in every stage, from bud to full bloom. We did not cross one half mile of prairie that could not afford honey for 20 or 30 colonies.

In the Spring there are numerous other honey-producing flowers, giving good success throughout the season—except it may be in July.

We are of the impression that no quarter section of prairie can be found where bees may not be kept with profit by following directions often given, providing water and keeping only strong colonies.

If the country is settled up—unless clover is raised—other honey plants must be provided to take the places of those destroyed by cattle—but while the prairie is new we warrant success.

The income of four or five stands of bees and the honey afforded for the family would make a most valuable addition to the comfort of the "home trade." T.

Seasonable Hints.

More of the success in wintering bees depends on their care in September than a "Novice" would easily believe. The way with many is to "guess they are all right," and let them alone, until it is too late in the season to make any changes to good advantage. As soon as frost comes the honey secretion ceases, and no more can be expected from bees for the season.

An examination of all stocks should be made before that time, as it is much easier doing it while they are still flying briskly. Some hives will be found to have a good proportion of bees and honey, and may be marked as safe for winter. Others may have bees and comb enough with scanty stores; these may profitably be fed some sugar-syrup or honey, and will then make good colonies for the winter.

If there are any hives half full of comb, and with too few bees for safety, they may be united, and two of them will make one of more value than any number of weak ones that are sure to perish during winter, unless extra pains are taken with them.

There is no trouble in uniting two or more colonies. When the bees of both are alarmed and induced to fill themselves with honey, they will unite peaceably.

Our way is: To take away the queen of one of the colonies to be united a few days before doing it; then thoroughly smoke or sprinkle the bees of both hives; select the best and

fullest combs from both, taking care to place two or more with some empty cells near the centre of the hive in which they are to remain; brush the bees from both hives before the entrance of it; put away any surplus combs for another season—and the work is done.

We do it more easily, when there is a loose bottom board to the hives, by setting the hives—first one and then another—over an empty hive; then, brushing the bees from all the combs into this empty hive, and arranging the best combs in the upper one, close all up and allow them to go up among the combs at their leisure. They will be found like one colony the next day, when the lower hive may be removed. We used to think it trouble in making bees adhere to a new location. After being united, of course, the bees of one of the hives must be in a strange spot, but we find that after such a stirring up as they get in this process, each bee seems naturally to make a new departure. T.

The committee appointed at the meeting of the North American Bee Keepers' Society to provide essays on interesting topics for the coming meeting at Pittsburg, earnestly request those who are writing such essays, or desirous of doing so, to report soon to either members of the committee. No time should be lost, as it is necessary to place the essays in the hands of the critics early in October.

There are bee-keepers in every part of the country competent to write essays full of interest and instruction. Let us hear from them. Report to either members of the committee.

N. G. MURRY, Memphis, Tenn.
E. S. TUPPER, Des Moines, Iowa.
G. S. HILL, Mt. Healthy, O.

☞ My Straw Mats are reduced in price to $4.00 per dozen, or 50 cents each for a less number. See advertisement. They will last many years and remain as good as new. Put them on when cold weather commences—the latter part of October—and take them off when the bees commence to gather honey, and there will be no propolis on them. The Mats are very much more convenient than cobs, leaves, &c. Sample Mats can be seen at the Chicago office of the AMERICAN BEE JOURNAL, and at the office of *Gleanings in Bee Culture*, Medina, Ohio. Mats cannot be made by the process given in the June number of *Gleanings*, that will compare in any respect with these samples. M. NEVINS.

MRS. S. E. SPAIDS, as will be seen by advertisement in another page, has removed to New York, having been burned out at the late fire in Chicago on the 14th of July. She states that she is prepared to pay cash for honey promptly.

Voices From Among the Hives.

D. A. PIKE, Maryland, writes:—"The first part of the season was good here; then it became dry, but it is now good again for honey."

"NOVICE" writes:—"Allow me to congratulate you on the consolidation of two such valuable journals as the AMERICAN BEE JOURNAL and the NATIONAL BEE JOURNAL, as our American bee literature will thus come nearer our common ground.

F. GRABBE, Wilmette, writes:—"I am glad to hear of the consolidation. The "old and reliable" AMERICAN BEE JOURNAL is conceded to be the best medium for disseminating information, contributed by the most successful and scientific bee-keepers in the world; and now with the consolidation of the NATIONAL BEE JOURNAL, will be the standard authority and CHAMPION."

DR. BAKER, of Berks County, Pa., writes that he is "very glad to learn that the old AMERICAN BEE JOURNAL is consolidated with the NATIONAL, and hopes that bee-keepers will give it that generous support that it so richly deserves."

JAS. G. TETER, Farmington, Minn., writes that "the Globe Microscope, advertised in the NATIONAL BEE JOURNAL a few times, is a fraud." We know nothing of it, but suppose it may be as he states. Due caution should always be used about such matters.

MICHAEL SORRICK, Clinton, Iowa, writes:—"Bees are doing well at present. They are gathering honey fast. The season has been fair all through. I feel glad to see the consolidation of the two Journals."

JOHN F. DIPMAN, Fremont, O., writes:—"I was glad when I noticed the consolidation of the two Journals. Bees have done well this season on Basswood, white clover being a failure, on account of dry weather."

WALTER NEWTON, Derby Line, Vt., writes:—"If it is of any interest to you to listen to our 'voice from among the hives,' permit me to say that we never have had dysentery among our bees. We winter them on their own stores, taking away their surplus in the spring. I use the Langstroth hive altogether. We pile them two hives high, in upper chambers of the house, give them plenty of air, and never have any dampness. Our old swarms refuse entirely to work in the boxes this year, so that we have to remove the frames. Our forced swarms are very heavy, with an average of 110 lb. box of frame honey. Their forage is 32 acres of alsike clover. After reading your Journal, we find we have much to learn, and intend experimenting next spring."

W. M. KELLOGG, Oneida, Ill., writes:—"I am very much pleased at the consolidation of the two great Bee Journals."

G. W. ZIMMERMAN, Napoleon, O., writes:—"Bees have done well here during the white clover and basswood bloom. They are not doing so well now. We have about 3,000 pounds of clover and basswood honey on hand, all extracted, which we are offering at 16 cents per pound."

JOSEPH JONES, Centre Co., Pa., writes:—"My bees have not done very well so far this season. Commenced with ten stocks, the season is very late and cold—June and July very dry. Increased to fifteen. No surplus honey yet. The prospects for buckwheat are good and we think we may get some surplus yet."

American Bee Journal

THOMAS G. NEWMAN, MANAGER.

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The German Bee-Sting Cure can be obtained at this office. Sent by Express for $1.00. It cannot be sent by mail. See notice.

Our subscribers in Europe, can *now* procure Postal Money Orders on Chicago. This plan of sending money is *safe* and economical.

FRANK SEARLES, Hadley, Will Co., Ills., has 50 swarms of Italian Bees which he will sell for $8.00 each, in any amount, if sent for soon.

Subscribers wishing to change their post-office address, should mention their *old* address, as well as the one to which they wish it changed.

Persons writing to this office should either write their Name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

JOURNALS are forwarded until an explicit order is received by the publishers for the discontinuance, and until payment of all arrearages is made as required by law.

We have received a Postal Order from Shanon, Wis., in an envelope containing nothing else. We do not know from whom it came, nor for what it was intended. Will some one inform us?

Honey Markets.

CHICAGO.—Choice white comb honey, 28@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

Choice white comb, 25@29c; fair to good, 16@22c. Extracted choice white clover, 16@18c. Choice basswood honey, 14@16c; fair to good, extracted, 8@12c; strained, 6@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO.—Quotations from Stearns and Smith, 423 Front st.

☞ Our Market is weaker and stock very large. Outsiders, who do not make a business of handling honey, do not know where to sell and place it, and are selling at a sacrifice. We quote: Strained Southern Coast, at 7@10c; Comb, 12@20c; the latter figure for San Deigo, in Harbison frames.

STEARNS & SMITH.

Premium Queens.

Mrs. Tupper authorises us to say that she will still continue her offer of a tested Italian queen to be sent to anyone who procures four subscribers, and sends the names with $8. This is a rare chance to procure a good queen at absolutely no cost, except the expenditure of time; and those acting as agents will find it easy to secure names for the consolidated JOURNAL during the approaching season of fairs and expositions. The queen will be sent promptly on receipt of names and money.

Any one ordering a Queen at the time of renewing or subscribing for the JOURNAL, will receive it and the AMERICAN BEE JOURNAL one year for $6.

HONEY COMMISSION HOUSE.

W. M. BRACKETT.

Room 27, Tribune Building, Chicago, will take consignments of Honey and dispose of it to the best advantage, for those desiring such services, on commission. Or he is prepared to pay cash for honey on delivery.

Mr. Brackett is General Agent for the American Publishing Company in Chicago, and may be relied upon to act on the square.

AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CEDAR RAPIDS, OCTOBER, 1874. No. 10.

Correspondence.

Correspondents should write only on one side of the sheet. Their best thoughts and practical ideas are always welcome; no matter how rough, we will cheerfully "fix them up."

Kansas Association.

Transactions of the Kansas State Bee-Keepers' Association, held at Leavenworth, Kansas, Wednesday and Thursday evenings, September 9th and 10th, 1874.

WEDNESDAY EVENING SESSION.

The State Bee-Keepers' Association met at 7½ o'clock in the Mayor's office, Hon. M. A. O'Neil in the chair. The Secretary read the minutes of the last annual meeting which were approved. A committee was appointed by the chair to select subjects for discussion for Thursday evening.

The committee reported back the following which were adopted, viz:

1. Is it more profitable to keep bees for honey or to raise stock for sale?
2. How can the largest amount of surplus honey be obtained?
3. Which is the cheapest and best plan of feeding bees?
4. What is the most successful plan of wintering?
5. Can bees be wintered without bee-bread?
6. Is a single story hive more profitable than double?
7. What is the best plan to prevent robbing?
8. The best plan to introduce unfertile queens?
9. Is it profitable to keep an extractor?

The President then read a paper entitled *The Hopes, Disappointments and Realizations of Bee-Keeping*, which touched on many points of interest.

He gave notice that an election of officers for the ensuing year would be held to-night.

Adjourned to meet again Thursday evening in the Mayor's office.

THURSDAY EVENING SESSION.

The President in the chair. The minutes of last meeting read and approved.

The special order of the evening was the discussion of subjects selected by the committee and the election of officers.

Subject: "Is it more profitable to keep bees for gathering honey or increase colonies for the purpose of making sales."

Mr. Riling.—With me the greatest profit derived is from the sale of honey, but I am of the opinion that it depends considerably on the locality and season.

Mr. Jacot, of Douglas County.—My experience is that in my locality the profit is in the sale of bees. As the honey season does not open until the 15th or 20th of August, by that time the colonies are reduced from swarming, and consequently not in as good condition as they would otherwise have been had the honey season opened earlier, before the swarming impulse set in.

Mr. Harris.—I am unable to discover any difference.

Mr. Wolfron.—I am of the opinion that there is more profit in honey, providing we have empty combs to insert in the hive during the honey season.

O. Badders.—By a judicious management of the extracted and properly constructed hives we could obtain more profit from honey; but in my locality the two should be worked together; as the honey season opens early we can depend on honey in the spring, and after the 15th or 20th of July could divide and make sales, providing we have the Italians, as they command a higher figure than the common bee.

Hon. M. A. O'Neal.—That it was rather a difficult problem to solve, as it depended on the locality, demand and price of bees and honey.

Subject: "How can the largest amount of surplus honey be obtained?"

Mr. Riling.—Stimulate and nourish them in the spring, so as to give them a chance to increase for the basswood harvest.

A Member.—How do you prevent swarming?

Mr. Riling.—By keeping the hives cool with plenty of lower ventilation.

Hon. M. A. O'Neal.—I consider top ventilation during the summer a deceptive teaching.

O. Badders.—I am of the same opinion.

Mr. Jacot.—Considered early feeding in his locality unnecessary, as it encouraged swarming and consequently weakened the colonies so that they were not in very good condition when the honey harvest opened.

Hon. M. A. O'Neal.—I am of the same opinion; did not nourish until the middle of July, so as to have them strong for fall harvest; use the extractor.

Mr. Wolfron.—Thought that plenty of room and some empty combs were necessary to procure a good yield.

O. Badders—Thought that we did not quite understand the size of a hive to use; considered a four thousand cubic inch hive about the right size. If properly managed, it would yield about one-third as much more as two colonies of two thousand cubic inches each.

Hon. M. A. O'Neal.—I am of the opinion that such a hive would be difficult to handle.

"What is the cheepest and best plan of wintering bees?"

Mr. King.—Have fed coffee sugar, and consider it very good. Also gave a description of feeder.

O. Badders.—I consider cream candy, inserted between the combs over the cluster, the best winter food that can be given, but think sugar syrup the best to stimulate with in the spring as the candy is a slow feeder, and does not encourage breeding fast enough in the early part of the season.

Mr. Jacot.— Have fed candy, and was astonished at the result; consider it the best winter feed that could be given, especially to colonies in a cellar or winter repository. He also gave an excellent recipe for making candy, which can be obtained by any member of the Association by addressing the secretary.

"The most successful plan of wintering."

Mr. Jacot.—I think the Quinby plan, in the cellar, with plenty of top ventilation, the best.

Mr. Riling.—I have wintered very successfully in the cellar. To some colonies I give upward ventilation; to others only bottom ventilation; think that those ventilated only at the bottom came out of their winter quarters in the best condition, but am of the opinion that a long hive containing 5 or 6 colonies, divided by thin division boards, would be the best for out-door wintering.

Hon. M. A. O'Neil.—Have wintered on both, but am most successful with out-door wintering. Place blankets on top of the frames; fill the top boxes with hay, and place a board up in front of the hive to protect the entrance from the wind.

O. Badders.—I have wintered in a cellar very successfully, but am of the opinion that they will not increase as fast as out of doors, although a great amount of honey can be saved. I have been astonished at the result of an experiment of placing two colonies in one hive and dividing it by a wire cloth, placing the hive in a large box and packing around the hives with common print paper.

Can bees be wintered without bee-bread or polon?

Hon. M. A. O'Neil.—I am of the opinion that they can be brought through, but would not amount to much.

Mr. Riling.—I never have had any experience in the matter, but I think it a hazardous undertaking.

O. Badders.—I am of the opinion that it could be done with success, but it depends entirely upon conditions. I think that if plenty of young bees were placed in the hive late in the fall and with a favorable early spring, so that the bees could get out to gather from maple and early bloom, so as to encourage breeding, they could be made a success.

Is a single story hive more profitable than a double?

Mr. Riling.—I always considered a two story hive with my management the best, providing the frames were shallow as they are the easiest handled and more convenient in every way, but I prefer the deep frame for rapid increase.

Hon. M. A. O'Neil,—With my experience the single chamber is the best, provided it is so constructed that the aparian could adjust it to suit the size of the swarm.

O. Badders.—I will have to acknow-

ledge that I am a convert to the Adair and Gallup theory, believing it to be the true method not to crowd the brood chamber. I have constructed a Gallup hive, and found it to do all that was claimed for it, if properly managed.

What is the best plan to prevent robbing?

Hon. M. A. O'Neil.—Wet hay thrown in front of the entrance is one of the best preventatives I have ever found.

O. Badders.—Strong colonies with entrance constructed so as to adapt them to the wants of the colony, is one of the best preventatives of moth or robber bees—that is providing the hive has a ventilator opposite the entrance 6 or 8 inches long by one deep,—also consider the small black bee the worst robber.

"The best plan to introduce unfertile queens."

Hon. M. A. O'Neil.—Cage and place in the hive, and at the end of 24 hours open the cage and place a piece of paper over the opening to allow the bees to cut through the rest.

Mr. O. Badders.—I believe in caging, but in addition would sprinkle the queen and colony with sugar syrup and peppermint mixed, then introduce her on a comb taken from the hive.

"How soon should honey be extracted after gathered."

Hon. M. A. O'Neil.—In order to have it good, it should be capped or nearly so, then immediately after extracting seal up in glass jars, in order to preserve the aroma.

The President announced that the discussion of subjects would now close, and that the next order of business would be the election of officers.

A member moved to suspend the rules, in order to add an amendment to the constitution, which was carried. The following resolutions were carried by an unanimous vote.

Resolved: That all that clause in the constitution heretofore existing in regard to the membership should be struck out, and in place thereof insert the following:

That all persons paying an initiation fee of 25 cents, and a membership fee of 25 cents a year, should be considered members in good standing.

The Association then proceeded to ballot for officers, with the following result:

President, N. Cameron, of Lawrence; Vice-President, Hon. M. A. O'Neil, of Black Jack, Douglas County; Secretary, O. Badders, of Leavenworth; Assistant Secretary, J. V. Randolph, of Emporia; Treasurer, J. Riling, of Leavenworth.

After a vote of thanks to the Mayor for the use of his office, and the Press for favors granted. The Association adjourned subject to the call of the Board of Directors.

O. Badders, Sec'y.

Hopes, Disappointments and Realization of Bee-Keepers.

A PAPER READ BEFORE THE ASSOCIATION OF THE STATE, SEPT. 9TH, '74, AT ITS ANNUAL MEETING IN LEAVENWORTH CITY, BY THE PRESIDENT OF THE ASSOCIATION.

Like almost other branches of productive industry in the west, bee-keeping is not entirely exempt from uncertainties as to results, but there is nothing to mark it as being a *peculiarly* uncertain branch of business.

As shown by the last annual report of the State Board of Agriculture, the whole number of colonies kept in the State on the first day of March 1873 was 14,884. No. of pounds of honey the preceeding year 135,384. No. of pounds of wax the preceeding year 3,686.

The counties in the order named reported the largest amounts of honey, viz: Leavenworth, 12,815 lbs; Jefferson, 12,611; Johnson, 11,384 lbs; Bourbon, 11,352 lbs; Atchison, 10,993 lbs; Doinphan, 9,795 lbs; Douglas, 9,384 lbs; Miami, 8,756 lbs; Jackson, 6,139 lbs; Franklin, 5,331 lbs; &c.

Although such reports are not generally very accurate yet they form a basis for calculations.

Placing the average value of honey for that year at 25 cents per pound and colonies at an average price of $10 each we have the following estimates:

135,384 lbs honey at 25 cts	$33,846
14,885 colonies at $10	$148,850
3,686 lbs wax at 25 cts	921
Total valuation	$183,716

In the year 1860 the number of pounds of honey reported was only 16,994 lbs. Hence it is quite evident that apiculture is rapidly growing in importance as one of the wealth and luxury-producing pursuits of the State.

So far as we have been able to learn, the past year has been an unpropitious one to bee-keepers generally, in Kansas, but in some localities bees have done very well—perhaps better than many other years. Those situated in or near large bodies of native timber and basswood groves have done the best. To determine what are the relative advantages of having apiaries situated in or near timbered districts, or on the up-lands when a good portion of the land in each year put under cultivation, is a subject worthy of consideration.

It is very evident that bees will not do well under all circumstances and in all localities, and to those who imagine that in their vicinity thousands of dollars worth of honey is annually going to waste for want of bees to collect it, we would say: be sure first that you are right and then "go ahead," otherwise if you should make much of an investment in the business and build much upon net results and large profits, you may find when too late that under the surrounding circumstances, all efforts, whether well directed or not, can only end in disaster.

But we believe that as the country gets older bee-keeping will become more certain and remunerative. A more abundant flora of other States and countries as it takes root and flourishes in soils, tempered by cultivation to its wants, along with our own indiginous varieties will furnish bees a more constant field in which to labor and will play an important part in the attainment of this result.

Too many in our state have nothing to report but their failures and the unprofitableness of the business and it would seem from this phase of the question alone, that bee-keeping is like a mirage to a thirsty man traveling on the desert who vainly follows its constantly receeding form until at last he gives up from inability to proceed further. Then he arrives at the conclusion that he has been the victim of a delusion.

But there is to this, as well as to all other questions, two side—a bright one as well as the dark one.

The present year as well as the preceeding one have been noted in the history of the State and country, dating back for the past 25 or 30 years as drouthy. The amount of rain-fall during the summer months being unpreceedently small and the evaporating power of the air being very great and continuous for a long time, the dew point being seldom reached. A consequence is, that during that time the flowers failed to furnish their ordinary amount of sweets, and the bees have had to remain idle during a time that in other years they were storing honey rapidly.

That degree of atmosphere humidity and that electrical condition of the atmosphere most favorably came to an end in our part of the State about the 20th of June, since which time the bees have done nothing; but prior to that time they did as well if not better than preceeding years.

Quite an amount of honey has been taken that was stored in the fore part of the season, and the prospects now are that bees will store enough this fall to last them through the winter, and in some localities furnish considerable surplus.

This prospect is more cheering in view of the fact that we have been visited by pests in the form of chints bugs and grasshoppers which have made such a heavy onslaught upon vegetation that it would seem to have "played out" much of the bee pasture. But many of the plants furnishing honey in the fall months are not savory dishes to those pestiferous visitors, and hence since the heated term has come to an end the atmosphere has changed as regards the dew point the bees have again resumed their cheerful hum and returned to their natural habits of industry.

A life is made up of pleasures and sorrows; hopes and expectations; happy realizations and bitter disappointments; the bee keepers have a fair field in which to pass through all these life-phases, and to see as if in miniature the foreshadowings of all that makes life pleasurable or otherwise.

He is flushed with hopes and buoyant with expectations, as he sees in the near future the happy realizations of his dreams and very often, whether they be night or day ones, they end in happy realities and success beyond expectation. The more thorough the acquaintance with the business the more certainty there is of satisfactory results.

But very frequently, just as the prospect is brightest and most flattering, some calamity crosses his pathway and his fair fabrics totter and fall to the ground. In a great many instances the calamity with its dire consequences might have been averted.

It is the main object of such an association as this to determine what is necessary to make the business more generally successful. That many of the causes of past failures can be avoided in the future is, to our mind, apparent. A free discussion of all the known causes of past failures as well as the experiences of those who have been successful, should constitute a large part of the work of this association. In addition to this the publication of everything that will lead to the attainment of better results will place our favorite branch of business where it belongs among the leading pursuits of the State.

Bee-keepers are generally a hopeful people, but we believe that they are not prone to "hope against hope," as is sometimes the case, as manifested as an inate principle of our being.

For instance, we have seen many persons in the last stages of pulmonary consumption, and the rule has been that they were always hopeful—hopeful that some turn in the disease would prolong their life or that they would again be able to go around and attend to their affairs as they had done in the past.

But bee-keeping is not like an *ignius fatius* that allures with false hopes and dazzles but to blind; but it has got something real tangible in its favor and will yet become a source of profit as well as pleasure to thousands more of this vast and changing west of which our own State is a fit representative. Then, as bee-keepers, let us do our duty. Let us keep up our organization, support our journals, and assist in every way in the good work, and thus not only we *ourselves* will be profited, but the State and nation will be made more prosperous and happy in consequence of our having lived and discharged our obligations to society.

For the American Bee Journal.

Bees Notes from Putnum Co., Ill.

In the spring of 1873, I lost 130 stands of bees; had fifty-five left. The loss being made up at this date, in the spring of 1874, I had 145. Now I have 283. My bees did well after May 1, 1873, so I got ninety swarms for 1873 and heavy surplus honey. In the spring of 1874, our bees came out rich and hardy. They began to make honey in April, of the best quality. They commenced swarming the 20th of May; that is, the yellow bees. The hybrids began the 10th of June, and swarmed until the 8th of July. On the 17th of June I got twenty-four swarms. They found the honey.

I live along the Illinois river bottom, where bees must do well, for they have the best of chance. They have in March the soft maple and willow. Then comes the orchards' bloom. Then the hard maple and ash, white elm and red. In May comes another willow, and quaking asp and cotton wood, which are heavy honey-producers. In June we have wild cherry, honey locust, linden and elbow bush. The 20th of July our bees have rest; no more bloom from timber, until the 11th of August. Then the wild flowers are in bloom on the bottoms. My strongest are making box honey now. O. H.

Henry, Ill.

For the American Bee Journal.

The Tulip Tree.

Since the publication of the communication in which I referred to the honey-producing qualities of the tulip tree, I have received several communications from the States and from Canada, inquiring how they may be procured, can I furnish young trees, or inform them who can, and the cost, to send cuttings by mail, etc. As I am so much indebted to the contributors of the JOURNAL who, by giving us the benefit of their experience and labor, have added so much to the cause, both of profit and interesting information, I feel it a duty and pleasure to answer communications, and give all the information I possess that may be of benefit to the fraternity; but as answering each separately takes up much time, and as there may be others who are desirous of the same information, I propose to answer all through the JOURNAL.

The tulip tree, commonly called, and in these parts, universally known as the poplar, is really not a poplar at all, though from the great height to which it grows, the large, green leaves, color and texture of the wood and general appearance, it might readily be taken for a species of poplar. In some localities in the west it is known as white wood. The proper name is tulip tree (Liriadendron tulipifera), of the natural order of magnoliaceæ. It is a native of the United States, and grows abundantly in the fertile soil of the Middle and Southwestern States, and attains a height of from 80 to 100 and 140 feet, with a stem some three feet and over in diameter. When full grown it has a grayish brown cracked bark, with many somewhat gnarled, easily broken branches; when young the bark is smooth and greenish in color, and the limbs are beautifully long and slender. The leaves are roundish, ovate, and three lobed. The flowers solitary, and at the extremities of the branchlets, and resemble tulips in size and appearance, and when first open, so filled with honey that the bees in visiting them make very little humming, as they simply alight, fill themselves and return to the hive. While the tree grows strong and rapidly, and great numbers of them come up from the seed and young roots in soil and places suited to them, yet they are very hard to propagate in nurseries, as not one seed in hundreds sprout; and it is still more difficult to grow them from cuttings. I am informed by gardeners who furnish all kinds of shade and fruit trees, that they procure them from the woods, and that they must be taken before they pass two years old, as they will not bear transplanting well after that age. The cost of procuring them here of the right age, which, of course, would be in limited numbers, would be about $25.00 per 100, ready for shipping. Being a physician, living in the city, it is not in my line or convenient to procure them, but I would suggest to some of our southern friends that may have unusual facilities for furnishing small trees, that if they make it known through the JOURNAL they might get orders in paying numbers, and I am sure those who get them will be pleased, and greatly benefited in having both a beautiful shade and honey-producing tree. Although a native of the United States, they are found in many parts of Europe, having been introduced for a shade tree. In Britain they flower only in the southern part, therefore it is probable that in the extreme northern States, and in Canada they might fail as honey-producing trees. On the prairies of the West, once introduced, they would soon spread and become very valuable for shade and lumber, even if honey was not an object.

Some writers for the JOURNAL recommend keeping chickens about the apiary. I indorse that, for it is quite a satisfaction to see them quietly going around and under the hives, looking in every corner for worms and moth. They are also very fond of drones, and I have laughed heartily to see them trying to catch them on the wing by snapping at them; but if workers

get too thick around, they shake their heads and dodge away for fear of being stung. At the time the bees are driving out the drones, they are most attentive, and will run from one hive to another and pick up the drones that are being worried out of the hive by the workers; but I have never seen them catch or eat a worker bee, not even the cripples that are fluttering on the ground to get away from the hive. They will look at them sometimes carefully, but soon as they find they are not drones, they shake their heads and pass on, as much as to say, You will sting; I don't like you. My hives are from one foot to eighteen inches from the ground, with pieces of old boards resting on the ground and against the alighting board, and it is as the drones come rolling down these that the hens catch them.

Having been inquired of as to the price of honey here, I will state that I sell most of mine to consumers for 30 cents. Last year I could not dispose of it all that way, and sold several hundred pounds in the comb, in small frames, for 25 cents gross weight. I do not extract a great deal, but for what I do I get 30 cents from the druggists, who want it in that form, knowing it to be pure.

J. Ralston Wells.

5134 Lancaster-av., Phila.

For the American Bee Journal.

A Hint.

Overstocking is not as liable to occur as overloading the combs, in any hive, or apiary; let it be few in numbers, or many, it is liable to occur, and often does with a small neuclei, as well as in a doubled or threbled swarm or stock. Let a small part of the space that has been formerly occupied by the patent hive, that is seldom overstocked with any real value, be occupied in explaining why one stock is overstocked; another by its side giving the large surplus, as spoken of by the patent hive man, that does not, or cannot, say anything else but overstocking and recommending his hive; when there is location, hives, queens, bees of the different qualities and quantities, stores, too little of honey or bread, or the reverse.

Now, will that big pot hive do all the managing, to make all the conditions right for the big surplus? There never was a place seen, during a yield of honey, where bees were kept, that was overstocked with well managed stocks!! It depends on nature, controlled by the superior, and the keeper, to keep the conditions right, whether in one hive or the other.

To get honey, bees should be kept to gather it. The surplus should be kept out of the way of the earnings of the young bees. One inch of honey stored around the brood nest, while more is to be gathered; that hive suffers for room; it makes no difference, whether there is many thousand empty cells around it, it suffers as bad as one of the large stocks, with every cell full of eggs, larva, bread, and honey.

A man that says a box hive, or bars are as good as frames, is not supposed to know how to get out the surplus honey, bee bread, eggs, brood, or the different qualities or quantities of bees, or queens; or add any one or more of the above, to make the condition right for obtaining surplus, either from the comb or in boxes, or improving the quality or quantity or stock.

J. M. Marvin.

St. Charles, Ill.

For the American Bee Journal.

Bee-Keeping in the South.

I am pleased to see that the two important bee-journals of the United States have united, and that we are now to have one first-class paper.

I am sorry to see so few communications from the South. Most of the articles and experiments are not adapted to this locality. The difficulties in the North, and the obstacles in the way of success are no obstacles here. We have no trouble, for instance, or danger in wintering bees. We make no preparation for this. Our bees stand on their summer stands, with no change or protection, and I have not lost a swarm in thirty years. My bees frequently gather honey and pollen all winter.

I frequently receive letters making inqiries about this country as a bee country, and you will permit me to answer through your paper.

I find that the questions from different persons and different localities, amount to about the same.

1st. Is yours a good bee country?

Yes. The bees swarm well, and gather plenty of honey. I have taken from a number of hives this season one hundred pounds of box honey, and two hundred pounds extracted honey. I could have taken more with close attention.

2d. What time do bees swarm?

The last of March or first of April. The swarming season continues through April and May, if it is a good honey season. We sometimes have plenty of honey-dew in September and October, and I have had swarms in three months. We can begin to raise queens the first of March, and have them ready for sale first of April.

3d. What is your bee pasture?

Ans. Early flowers in February, from which bees gather pollen and honey; peach bloom last of February and first of March; apple, locust, and China bloom first of

April; linden, and maple, chinkopin and other trees bloom later. We have usually in April honey dew, from which our bees make honey. I have seen it so abundant as to drip from the trees. Generally found on the hickory, but at times on other trees. In some localities we have the muskete tree, producing considerable honey. The clover and buck-wheat do not grow here. The bees make honey from something all seasons, unless it is very dry or very wet.

4th. What is the price of black bees?

Ans. From two to three dollars in box hives, sometimes lower. There are plenty in the country, and any amount can be bought.

There is but little attention paid to the culture of the honey-bee. Some few Italian queens have been imported this season from A. J. Murray, of Memphis. A few are using the movable frames. I have the only honey extractor I know of, which I am using this season with great success. I am convinced this is one of the best localities for honey and rearing Italian queens to be found in the land. I am sorry your American Bee Convention meets so late in the season, as the weather is too cold for us from the extreme south at that season.

W. K. Marshall.

Sereveport, La.

For the American Bee Journal.

Sale of Honey.

It is very evident that the production and sale of honey as an industry in this country is still in its infancy. Nearly every staple article of food has its regular place and price in the market reports, while honey, if put down at all, will be found in the miscellaneous list, with hoop-poles, feathers, etc.

Though craved by a great majority of people, honey fails to become a staple article as a daily consumption, because it is upon the market but a comparatively short time, as a luxury, and at a high price. Furthermore the great majority of people are unacquainted with the nature of honey, and can easily be imposed upon by an adulterated mixture. This brings extracted honey into disrepute, and the consumer has to be educated in relation to its qualities and its production. At present the apiarian is striving to learn the consumers all of these facts, but instead of striving to learn those in his immediate vicinity, he too often desires to sell his barrels of honey in bulk as he would his firkins of butter, and ships it in the same manner to his commission merchant in a distant city, and in consequence generally receives an unsatisfactory price.

Now we claim that this education for the consumption of honey should commence near home, where the apiarian and the method of production is known. Thousands of pounds could be sold in every farming community, and if a good article was sold every year his sales would increase. If the apiarian should start out among this class with a barrel of honey and exact cash, his sales would probably be slow; but let him adopt the exchange system, and take butter, eggs, etc., for pay, and his barrel would soon be empty, while the exchanged articles could be readily converted into cash. Different routes can be taken each day, and if his honey holds out, and his trips are regular, a great many will look for his appearance. Regular customers will buy their twenty-five to fifty pounds for winter use. A regular price should be extracted, a single pound should be sold for *its* price, and a discount be made in favor of those who purchase a quantity. If several apiaries are located near the same vicinity, one man could be kept upon the road a long time.

The general introduction of honey in this manner would suggest new uses for it in cooking and preserving of fruits. Some may object to this peddling system, but will not the difference between 15 or 16 cents, wholesale, and 20 or 25, retail, pay to put a good retail salesman on the road for several weeks?

A general introduction of honey in this manner through the rural districts would keep the market better in cities.

We are led to this course in this vicinity because in all eastern towns and cities sugared honey has been sold extensively, and anything in the form of honey in a can is looked upon as sugar syrup, sure. We trust Mrs. Spaids, with western energy, will educate New York City in relation to this very important product, and give us a reliable market all the year round.

Scientific.

Hartford, New York.

For the American Bee Journal.

Test of Italian Purity.

Is there any fixed and certain test of Italian purity? If so what is it?

A bee-keeper of some prominence wrote me a year or two since, that he had "pure Italians" with only *two* yellow bands. He enclosed in his letter two or three such specimens of his bees. They compared favorably in color with my worst hybreds. Are such bees pure Italians?

Mr. Dadant says in the July No. of the American Bee Journal, that "even in Italy there are a few black bees among the thousands of well-marked," and he adds that this "this is not a mark of impurity." Mr. D. ought to be good authority on this point, as he has imported largely, and has had the opportunity of observing the Ital-

ian in its native land. But considering that his opinions are entitled to much credit, it is true in point of fact, that the *pure* Italian queen, *purely fertilized*, EVER produces "black" bees, either workers or queens? If this be so, then the Italian is only a mongrel species, and has no fixed marks by which it can with certainty be distinguished.

I am well aware that many imported queens, as well as many that are bred in this country and called pure, fail to duplicate themselves in their queen progeny, and produce workers of various markings. I had, until recently, in my own apiary an imported queen, one that was brought over last year by Mr. Dadant, whose worker progeny were two and three banded, and whose progeny varied from the brightest yellow to the deepest black. She was of extraordinary fecundity, yet fell far short of being what I considered a *pure Italian*. There was evidently black blood either in her own veins, or in those of the drone by which she had been fertilized. How she received this black blood in Italy is more than I can tell, but the effects of it were too plain to be mistaken.

The true characteristic or test of Italian purity, in my judgment, which is based upon close observation for several years, is the uniform and invariable showing of three yellow bands by the workers. If there is one worker in a thousand that fails to show the third band distinctly, or if there is a want of uniformity in the brightness of the bands, the mother of such workers will prove an unsafe breeder. And it would not do to trust to the appearance of old bees, or of bees after they have begun to work. It is then quite difficult to detect the impurity. The best, and in my opinion, only time when we may determine with certainty, is when the young workers are just emerging from their cells. If there is a two banded young bee on the cord it will soon be discovered; but if all the young bees are of a light milky color—none with a bluish, or dark back, and narrow light brown just behind the waist—the mother of such workers may be relied on to duplicate herself without fail in her queen progeny.

I think we way restrict the test a little further, and require it to be applied to the brood of young queens only. I have had a few queens, that, when young, produced occasionally a two banded bee, but whose workers, the second and third year, appeared to come fully up to the standard. I have tried breeding queens from such mothers, and have had to discard them as impure. I would occasionally find among their queen progeny, young queens with broad dark rings around their bodies, a very bad mark on a young queen. Such ringed queens, if fertilized by black drones are apt to produce, more or less, black workers. My experience convinces me, that an Italian queen, whose own blood is entirely pure, will never produce a black worker, notwithstanding she may have mated with a black drone. And where an Italian queen does produce even a "few" black workers, although "the thousands" of her brood may be well marked, it may be set down that the mother of such a queen is either impure or impurely fertilized.

I am aware that the views expressed above differs from those held by several at at least, of our best apiarists. It may be that I am wrong and they are right; yet I must be permitted to entertain the honest convictions of my mind, which I cannot resist until I have more and very different light on the subject. M. C. HESTER.

Charlestown, Ind.

For the American Bee Journal.

Chips From Sweet Home.

HOW TO GET THE MOST BOX HONEY.

Taking our location where we have almost a continual flow of honey from early spring till heavy frost cuts it short, we would proceed as follows: Get our hives crammed full of bees by giving no more room to the bees than they can fill; to accomplish this we use a division board and crowd one or more combs to one side, as soon as they have sufficient bees we insert an empty comb and move the partition board and continue thus to do till the hive is full of bees and combs full of brood, we then, and not till then, put on our surplus boxes. If previous to this time they gather more honey than they consumed in raising brood, we empty with the honey slinger so as to give the queen "elbow room," after our boxes have been on a month we remove them and see the condition below, if they have filled the side combs with honey, which they are apt to do, we remove them and sling the honey out, placing the empty combs in the center and those with most brood outside; give the queen room to deposit eggs; raise all the brood we can and the honey will come. The nearer the brood we put our surplus boxes the less honey will be stored below and the more in the surplus boxes.

All hives with surplus boxes or a set of frames above for slinging should be examined below once a month and in case much honey is stored there it should be slung out as it cramps the queens brood department. Many queens are called unprolific because they have no room to deposit eggs. Keep hives strong by raising all the brood possible and the honey will be gathered.

SENDING QUEENS BY MAIL AND EXPRESS.

We have always sent our queens by mail, and expect to do so as long as Uncle Sam will permit. My reasons will be found in the difference of the following two examples. R. M. Argo sent me a queen from Lowell, Ky., a distance of 300 or 400 miles by mail which *cost* 4 *cents*, it was a *week* on the road. Ch. Dadant and Son sent me a queen from Hamilton, Ill., a distance of 80 *miles* by *express* to New Boston which *cost* 60 *cents*, it was over a week getting to New Boston and the express master notified me of it by mail. I had already made one trip (8 miles) for it, and the next day I got it; they were 13 *days* on the road. The above needs no comment. I get a different box from every breeder, weighing from half an ounce to a pound.

I will describe the box I use and the mode of putting up. The end pieces are 1 inch wide, 2¼ in. long and ¼ inch thick. Two sides are ⅜ in. wide, 3 in. long and one eight in. thick. The top and bottom are 2¼ in. wide, 3 in. long and one-eighth in. thick. We use cigar box nails, nail the two sides on the ends and then bottom, in the top put one nail in the middle of one end, which leaves it to swing open, now cut a piece of sealed honey comb 1 inch by 2¼ in. cut off he cells on one side near the base, lay this piece where the bees can clean off all the loose honey and no more, now place it in the end of your box, having the capped cells towards the inside of the box, then put in two nails through the box in the comb to prevent its moving, take the queen by the wings and slip her in the box, the cover being swung open a little, then put in 15 or 20 worker bees from the same hive and nail. Put on the sides the address with a lead pencil and a two cent stamp on the end and drop in the post office and Uncle Sam will do the rest. D. D. PALMER.

Eliza, Mercer Co., Ill.

For the American Bee Journal.

Italians vs. Black Bees.

As everybody likes to talk of themselves, and as amateur bee-keepers seem to be no exception to the rule, I will proceed to do likewise; and now as I promised in the May number of the *National*, I will give a sort of epitome of my experience, with both black and Italian bees the past summer.

I was anxious to know if this talk about the superiority of Italian bees over our blacks was *interested talk*, or a real fact; at the same time I could not believe that *all* the eminent bee-keepers of the country would so emphatically praise the Italians unless there was *some* foundation for it.

So having two Italian colonies, I bought two black colonies, and placing them side by side, let them proceed to their level best. Previous to my purchase of the blacks (in April, I think), I had been feeding the Italians as often as the weather would allow me to open the cap of the hive (American Farmers', 12x12 inside). So I think the Italians had some the start of the blacks in that respect, though they were about equal in strength on coming out of winter quarters.

Now for the result. I divided both of the Italians and only one of the blacks, leaving the other for the surplus honey. The Italians have become as strong in numbers as the one undivided swarm of black bees, and one of them cast a natural swarm July 31st, which I wintered with a nucleus which I had started from one of the other Italians.

SUMMARY.

From two Italians I now have three very strong colonies and two average ones; total, five. From two blacks I have one average colony, and two scarcly fair ones.

As to honey, the drouth came in June and white clover was a myth, but during July and August they all held their own, gradually increasing in weight, (I have an apparatus for weighing like one suggested by Burch, I think), and since September 1st they have been carrying in "dead loads" of gold-wood and aster honey, so that I have extracted eighty pounds from the two strongest Italians, and the one strongest black colony. Further, I have been fighting the moth all summer in the two divided black colonies, while the Italians will not allow a moth to slap his villainous little pinion in sight of their hive.

I must, therefore, say that my prejudices (if you call them such), have been removed. Though I never was prejudiced against the Italians as such, but it is my nature to assist the weaker side always, and when I heard every one praising the Italians, I thought I would give the blacks an equal chance, "a fair field and no favor, and may the best bee win"; and for the future I shall pin the Ligurian colors to my sleeve and continue to say: Glorious little worker, from whom we may learn glorious things! from whom even the wise king could be instructed. Long may thy golden bands continue to flash in the sunlight of happy rural homes! Worker! with an industry that is never tiring, never ceasing; a perseverance that could teach a Hannibal lessons in persistance; a method that could teach "the art of order to a peopled kingdom"; a bravery in defense of home and kindred that even a Winkelreid could scarely excel!

Verily, I should say: "Go to the BEE, thou sluggered, consider HER ways and be wise!"

I would like to ask some reader of the JOURNAL to describe "aster" to me.

There are fields literally covered with yellow flowers near me (Englewood, Cook county, Ill., 6½ miles south of the court-house, Chicago). These flowers look like sunflowers in shape and color, but are from a half to three inches in diameter. My bees have been working on them since they began to blossom, about September 1st.

With a sincere wish for the prosperity of the united JOURNALS, I subscribe myself,

With respect, P. J. COLBURN.

For the American Bee Journal.

Bees in New Zealand.

Whoever has read Cotton's "Bee Book," published in London, A. D. 1842, will remember the interesting account which he gives at the end of the book of the manner in which he packed two hives to take with him to the Pacific Island of New Zealand. His success was remarkable, when the great distance is considered—a voyage of five months. The Rev. Mr. Cotton accompanied the first Bishop of New Zealand in his missionary work, but he found time to introduce his pet bees among the islands of the Pacific, as the following account will show:

"The Rev. Richard Taylor, of New Zealand, while on a visit to England, reports that 'bees were introduced into New Zealand before Rev. Mr. Cotton's arrival, *but the chief supply* is derived from his stock. They are now very abundant and widely spread; in fact, the swarms which have escaped have completely stocked the woods. Bees in New Zealand work all the year, and make two kinds of honey. The spring or summer honey is liquid, the autumnal or winter honey is solid and completely crystalized. The honey is very fine, but varies in character according to the prevailing plants of the district. That of the south is in general better than that of the north, from the great abundance of plants and flowers.

"New Zealand will be a great honey country. It now sells at nine pence per pound, and soon will be less. Australia also produces some. We have a native bee which is solitary, and makes but one cell, which is in a hollow stick. Half the cell is filled with wax,* and the other half with honey." D. C. MILLETT.

Holmesburg, Pa.

*Probably the writer means farina.

For the American Bee Journal.

Voice from Ontario.

Bees have done remarkably well here this summer so far, although I thought in the spring that we would get nothing, as the weather was so very unfavorable.

I had three stocks in the spring, and increased them to eight, and took nearly three hundred pounds of honey, principally extracted.

I am afraid some one will say, that fellow is going ahead too fast. Well, perhaps so, but my stocks are all very strong, and have plenty of honey. I had about empty combs enough for the whole of my increase. Some of your correspondents have been making considerable ado about an increase of four pounds of honey per day. I do not think that a very *big thing*, for I had a natural swarm on Monday afternoon, and on the Saturday following I extracted thirty-five pounds of honey from the same swarm, being at the rate of five pounds per day. Of course they had empty combs given them, and nothing to do but clean up house and go to work.

I see that Prof. A. J. Cook gives it as one of the special necessities that a new swarm should have a comb of worker brood in the hive to induce them to stay.

Now I do not wish to set myself up as an authority, but will give my experience. I have hived a great many swarms during the last seven years, and never had a swarm leave yet. I had no charm for them except nice, clean hives. I never had any trouble to get straight combs built. All the crooked combs I have seen, were attributable to the hanging of the frames in the hives. The principal trouble I find here is the wintering. Mine wintered as well as I could wish last winter, but I am already beginning to look forward with dread to the cold weather next spring. I will probably tell you how my bees have done this year, as I count the year from the first of May until May again.

Lucknow, Ont. GEO. T. BURGESS.

For the American Bee Journal.

A Voice From the South.

The honey season in this section for this year has been an exceptionally good one—better than it has been for the past eight years. My apiary is now not a large one. I am compelled to keep it reduced to a limited number of about 12 hives, as I have but little time to devote to them on account of my occupation. I had one hive to give me four sets—(four boxes each)—16 lbs. in all, averaging 5 lbs. each, beautiful honey, during the season. The boxes being removed as fast as filled, and this, after having thrown off a fine swarm in April, the usual time of swarming; and having no unusual attention, and will go into their winter quarters with abundance of honey, as I never deprive them of honey from the main hive. I use the regular Langstroth frame hive. JNO. R. BLEDSOE.

Natches, Miss.

For the American Bee Journal.

A Visit to Mr. T. G. McGaw, Monmouth, Ill.

And a pleasant visit it was too, and to be placed on record in the book of memory to be recalled in after days with other recollections of our bees and bee men. I found Mr. McGaw's bee-yard by enquiring diligently, and found the bee man at his post with a bee veil tied on top of his hat in readiness for use if the war should be carried too close home, though he said he had but little use for it. I told my name and in a few minutes we were like old friends, talking of course about bees, hives, extractors, journals, and last but not least, the bee-keepers themselves.

He is a well posted bee-keeper in the broadest sense of the term, having taken his first start in bees back in Oxford, Ohio, near Rev. L. L. Langstroth, where he got his first Italian queen for a single stock of blacks, the said queen turning out to be a hybrid. There, for the first time, I saw Will. R. King's hive, the Triumph, Gal'up's and Novice's frames, with Novice's metal corners which are a good thing but costing a little too much to be used in a large apiary where cheapness is the main idea, that is 4 cents per frame.

Mr. McGaw has about 65 stocks I think, besides some he has on hand keeping for others, mostly in Langstroth hives. And by the way, he spoke about one thing in regard to getting up a "standard" frame. Why can't they who are getting this new frame into use, or trying to, take the Langstroth hive as a beginning. Just cut off the frame and run it the other way of the hive, a frame easier to handle, extractors could all be made to correspond with it, etc. See how easily the standard frame question could be settled if you but listen to our way of doing it. In the afternoon a slight shower drove us into the house and there we continued our talk of the same old subject.

I listened with interest to the account of his transactions with other bee men, those he had been to see, had sold queens to, bought queens of, etc. I think that if I were a patent bee hive man I'd give Mr. McGaw a wide berth, for he seems to have no mercy for humbugs, especially in the bee business. After the shower was over we went out to the bees again, where we spent the time in looking into and through the hives, which were crowded with honey, bees and brood, and some with nice box honey on top; inspecting the workers from imported mothers, etc. Was shown a frame he had put up for fertilizing queens in confinement, and he feels as though it would do him good if he could give the man a good licking who said queens could be fertilized in confinement. Another one of the pet theories laid on the shelf. I did not have the honor (?) of being stung by any of Mr. McGaw's bees, though several came around us in a threatening manner and one I had to *whack* with a shingle to teach him respect to strangers.

I did not get the figures of his honey for this season, but think from what he said it has been pretty good. I brought away, as a souvenir, one of his excellent queen shipping cages, sent by mail, 1 cent postage.

Our bees are working hard yet, buckwheat most gone, but white clover re-commencing and bees working on it good, and heartsease by the acre in our cornfields. Have had two big rains clear off with but a slight touch of frost, but are in hopes that we shall have a good honey time yet. W. M. KELLOGG.

Knox Co., Ill.

For the American Bee Journal.

Observations on Wintering.

Last fall I dug a cave, or outdoor cellar, 10x14 feet, and 6 deep. Through the center was set a row of posts, and on these, and the dirt sides, rested a roof composed of poles, brush, hay, and dirt. This roof was about two feet thick, and two ventilators 4x6 inches were inserted in it, one of which reached to the floor of the cave. The doorway was large, with loose inner and outer doors, the intervening space filled with hay. In this cave thirty stands of bees were wintered from the 22d and 24th of November to the 20th and 22d of March. During the winter the temperature in the cave varied from 34 to 40 degrees. Once a week we went into the cave to see that all was right, generally raising some or all the hives to examine them. Five times, at intervals of about two weeks, fire was built in the cave, and the temperature raised to 50 or 60 degrees for a short time. Twenty-six stocks were in the Quinby hive, covered with cotton cloth, well gummed down with propolis, and with rather tight, flat roofs. To these stocks no ventilation upward was given until January 18th, when considerable upward ventilation was given, as much moisture had collected. Plenty of ventilation was given the four box hives at all times. Following Burch's suggestions, some hives were raised, on boxes, twelve inches from the shelf, some four inches, and some were set flat on the shelves.

Now for results. No signs of disease appeared in any hive, but all were bright when set out. All wintered on honey gathered in August and September, and consumed from ten to fifteen pounds per hive. Out of thirty hives nearly three quarts of bees died, but this loss was quite unevenly distributed. The box hives lost

almost none, the strongest stocks in moveable combs next least, and the weakest stocks most. Those hives raised on boxes lost more than those sitting directly on the shelves. Though it is safer to record facts than to give opinions, still I will venture one or two.

First. I think the tall upright form of the box is better adapted for wintering at a low temperature than the Quinby hive, as the bees are clustered more compactly with their stores above them, surrounded by warm air.

Second. In those hives set up on boxes, those bees which, from any cause, dropped to the bottom were chilled and lost before they could regain the cluster.

Third. For wintering at low temperature, strong colonies are safest and best.

Fourth. That Italians, being more active, are injured more by being disturbed than the blacks.

In two of my hives small patches of drone comb happened to be in the cluster, and the queens filled them with eggs, and one hive had some fine black drones on the first of April.

In conclusion, I would like to say that my cave suits me well for wintering, will hold about sixty hives, and will last several years, and the total cost, including labor, was not over twelve dollars.

P. C. TRUMAN.

Harlan, Iowa.

For the American Bee Journal.

Philosophy and Practice in Wintering Bees.

As I have been successful in the wintering of my bees for years past, while death has blighted and destroyed thousand of colonies all over the country, and in some instances whole apiaries. I now transfer to the AMERICAN BEE JOURNAL my practice.

The philosphy of wintering bees is a right temperature of atmosphere, and a proper escape of the surplns moisture accumulating from the respiration and perspiration of the bees.

The practical feature in successfully wintering of bees, it is to pack them for winter quarters that there will be no conflict with nature's laws, or in other words, that a dry, warm temperature be secured.

How can this be done?

1. By placing the hive in a good, warm, dry cellar, or a house built exclusively for that purpose. And when deposited I always raise the lid ¼ of an inch on one side or end of the hive, partially closing the fly-hole so as to exclude mice. The mercury should range at about 45° Fahrenheit. When the proper season rolls around put them up immediately after they have flown out, or in a very few days after, and leave them undisturbed in midnight darkness, and all will be right in the spring.

2. To secure the desired end in out door winter; if the hive is large, holding more than the requisite amount of winter stores it must be contracted to a proper size, and ventilated at the top, so as to let the surplus moisture escape and yet secure the animal heat of the bees. This is easily done. Remove the surplus frames from one side of the hive, sliping in a dividing board, filling in between it and the outer wall with leaves or straw. Cover the frames with a piece of cloth of any description, first laying a few small strips of board across the frames to give the bees a pass or passes over the tops of the frames under the cloth. Now, put the second story on and fill it with leaves, straw or some other fine warm material and place the lid on, contracting the fly hole to about one inch, and if the swarm is very strong raise the lid one-fourth inch on one side to dry up the moisture that collects rapidly on the top of the straw.

Hives should be placed near the ground and underpined with straw, to secure the heat of the earth. Bees cannot be successfully wintered out door and empty combs prevented from moulding, where the hive is not contracted to a proper size. The arrangement is in conflict with the laws of success, and disasterous results must follow. The moisture thrown off in animal respiration is in fine particles like steam when exhaled from the lungs and never will condence into drops until it reaches a strata of atmosphere colder than the blood. When it cannot escape at the top of the hive it settles in drops at the furtherest and coldest part of the hive, and when lodging on empty combs they are blighted with mildew and in a few years worthless, whereas they should last good 10 or 15 years. When the size of the hive corresponds with the size of the swarm the whole internal air of the hive is kept warm, and the particles of moisture are bourn upon the atmosphere, and condence in the top of the hive above the straw where they will never get back, leaving the bees dry and warm, in which condition cold seldom effects a good swarm.

Camargo, Ill. A. SOLISBURG.

For the American Bee Journal.

A Proposition.

Would it not be well for bee-keepers of America to form clubs, or rather a joint stock company, in order to procure the best variety or varieties of the honey-bees that can be found in the old countries, by sending a competent and reliable person there to procure them? I for one would like to invest in this direction, provided others would join in sufficient numbers. I am willing to be one of twenty-five to pay one

hundred dollars each, which would make $2,500. This sum probably would be sufficient to make the experiment. I have long been of the opinion that there are bees in the old world far superior to any that have been imported; and I hope there will be measures taken at our next annual convention, to be held at Pittsburgh, Pa., to form a company as above.

I believe if this subject was laid before the Commissioners of Agriculture at Washington they would assist in this laudable enterprise. A. BENEDICT.

Ohio.

For the American Bee Journal.

Artificial Pasturage.

For some years past I have been giving much attention to honey-producing plants, and am constrained to believe that the catnip plant has not received the consideration that its importance justly entitles it to. For three years past I have been sowing the seed on waste places, in all directions, for the distance of a mile or more from my apiary, and I have never seen anything equal it. It commences to bloom here the last week in June, and lasts fully three months, giving a continuous yield from the time the white clover fails, till frost. It thrives in any part of our country; stands our continuous summer drouths better than any other plant, and never fails. Our bees are on it every moment of daylight there is, from one month's end to another; not even a smart rain will drive them from it. Notwithstanding it is now the driest time that has been known here for many years, the bees make a constant roaring over the little catnip field which I am cultivating. We shall plant more of it for cultivation next spring, or rather winter. January and February is the best time to sow it. Quinby says, "If there is any article that I would cultivate especially for honey, it would be catnip. I find nothing to surpass it."

M. N.

For the American Bee Journal.

Wintering Bees in Ohio.

Bees have winteted well with me this winter. I set my bees out on their summer stands the first warm day in March: I found all alive and in good condition.

Here let me say that I agree fully with Mrs. Tupper, Mr. Quinby and Mr. Dadant in regard to the loss of bees experienced by bee-keepers the winters of '71 and '72.

Permit me to relate here my own experience. The fall of '71 I had a number of small colonies that I had made quite late in the fall, and not having honey enough for wintering, I fed melted A sugar. Those that were strong enough to seal it up, wintered very well, but those colonies that were weak and did not seal their stores, perished with the dysentery. All bee-keepers ought to know that unevaporated, and unsealed honey will cause dysentery among bees, if they cannot get out of the hives to empty their intestines. This was the case with my bees. If I had set them out a few times for a fly-spell, they would have got along all right; but, says one, "why not leave them out all winter?" Because bees, to winter well, on their summer stands require plenty of bees, plenty of good sealed honey (or sealed sugar,) and proper ventilation. The fall of '72 my bees remained idle from the middle of July to September, and the queens did not lay to any account, for at least six weeks. So of course, nearly all the bees in the hives were old, and when buck-wheat and golden rod offered plenty of honey, the bees being no longer nurses, but honey gatherers, the hives were soon full of honey and the queens having but few empty cells, the brood was too scarce to replace the old bees, perishing every day. So when winter commenced my colonies were quite weak, and part of them perished like the others. The only way to prevent such a danger is to see that there is plenty of room in the hives, say in September, and then feed the bees, in order to have the queen laying regularly.

Last fall having profited by past experience I housed my bees in good condition the first cold snap in December. I prepared my colonies by taking off honey board, and putting on honey quilts, and then set them into my winter bee house with caps of the hives nearly closed below. The thermometer standing all winter at about 35 deg. in my winter depository.

Frederick, Ohio. LEONIDAS CARSON.

For the American Bee Journal.

How I Introduce a new Queen.

Perhaps you would like to know my plan of introducing, especially to bees that are cross, or too stubborn to receive a queen. I dont think it is new to you, but I have not seen it in the papers. I take one card of comb containing brood and honey, and all bees adhering to it. I then cut out a piece large enough to press the cage with the queen in to it in a perpendicular position; giving the queen a chance to get to the honey, and also to be among the bees and brood. Now I put them into an empty hive and add as many more bees to it, so as have plenty of bees to keep her, and shut them in. It seems that when bees are so imprisoned they soon forget all about a strange queen. In about twenty-four hours I open the hive for an hour or two, allowing some of the old bees to fly out, and after that release my new queen at once. I

find that in almost every case she is well received. I go in about half an hour to see that all is right. I now kill my old queen and leave them queenless for a few hours, or all night and let them find out that they are queenless, and then exchange places; shuting in the bees of the old colony, and opening it at intervals of half an hour or longer, according to how fast they they leave for their old home. It takes several days to get all the bees back. This seems slow, but I have found it a safe plan.

My bees have been doing well till after linden harvest was over; but since that time they have not done a great deal. It seems as though they had come to a dead stop, for they don't increase in numbers, nor do they lay up stores. I am glad to learn that the two JOURNALS are consolidated, for it does one good to hear from old friends now and then. FRED BECHLY.

For the American Bee Journal.

Report from Bruce, Canada.

Last winter was very mild in the county of Bruce; and consequently the bees came out from their winter quarters in a very good condition. The spring, however, was very unfavorable. The days were clear, but the winds were cold and frosty; so that a large number of strong and healthy colonies dwindled down to mere handfulls. To bee-keepers the summer appeared long in coming; but when it really did come, it was most favorable for bees—could not be more so. From the beginning of May to the present—the end of August—the bees had but very few lost days. Blossoms of all kinds were abundant, and honey was brought in most copiously. Let me give you the yield of one Italian hive as a specimen, which was in a good condition on the 1st of May, but not extra. From it, I took three swarms, or divisions; 50½ pounds of box honey; and 82 pounds of extracted honey—making in all 132½ pounds of honey, and three hives. The parent stock, with the three young hives, now weigh an average of forty pounds each, which they are to have for winter supply. Of course some of this weight consists of bee-bread; but were I to extract all the honey they now have, as some on your side are in the habit of doing, this hive, which is situated 44½ degrees north latitude, would be among the wonders of the day. One thing, however, in favor of the young swarms, must be told: They had but little comb to make, as this was furnished them.

I see from the JOURNAL that bee-keepers are agreed respecting the cause of dysentery among bees in winter. My humble opinion is that undue excitement produces this disease among bees that have been long confined. Bees are very sensitive, and easily excited. Too much *heat;* too much *cold; dampness*, or *scarcity of food* will excite them. I never yet met the disease in a hive which was freed from all these things; and it is difficult to winter a number of hives in the same building, or apartment, so as to be freed from them. For one hive may be too warm, and another beside it too cold; because the one contains nearly twice as many bees as the other. Two hives may have the same weight in the fall, and during the months of confinement the one may not consume half of its food, while the other may die of starvation; because some bees consume more food than others; and because the temperature in one hive may differ from that of another; and bees consume food according to the degree of temperature in the hive. Again, food may be in the hive, and the bees may perish from want, or by attempting to reach it. The food must be near the cluster, or the bees will get excited while selecting another place in the hive where they can reach the food; and during such excitement, or any excitement arising from any cause, dysentery is produced, and the most of the bees, if not all of them, perish.

My difficulties are connected not with the wintering of bees, but spring. Though my bees are generally confined for about five months, yet I bring them out strong and in good condition; but they are not long out when they become reduced, unknown to me and in spite of me. The colonies that have brood pretty well advanced during their confinement, do well in spring, if their queens should not die, a misfortune which very frequently meets me, and for which I can give no reason. In winding up my thoughts on these important points, for the time being, let me place my difficulties on record, and in the form of queries which may meet the eye of some who may be both able and willing to answer them through the AMERICAN BEE JOURNAL.

1st. Would it be wise, or safe to excite a colony which would be very still during its winter confinement, by feeding it, so as to cause breeding to be commenced two or three weeks before it would be taken to its summer stand?

2d. What causes so many young, and apparently healthy, queens to die in the spring?

3d. I have now a queen from an imported mother, two years old, which five times her own size of gold would not purchase; because she is the most prolific queen I ever saw. Her progeny are most beautiful in their appearance and form, extraordinary workers, and of a good disposition as ever I had; and all her queen daughters are in color and form like herself. Very near the half of the eggs laid by

this valuable queen last spring produced drones, though the eggs were deposited in worker cells; but now, and during the last two months of summer, her eggs are, and have been, all right. How is this to be accounted for? My own opinion is the following: When I first made the discovery that so many of her eggs produced drones, I concluded—though much to my grief—that my queen was getting to be an old queen. But now as she shows no signs of old age, but has all the energy and prolificness of a young queen, I am driven to another opinion, namely: That in the spring the queen's body was so small that when she was in the act of depositing her eggs in the worker cells, her body was not sufficiently compressed for the eggs to receive their vivifying influence from the spermatheca; but when the queen was more liberally fed, and her body became large, the compression was effected, so that the eggs deposited in worker cells produced workers. Is my theory correct? If not, who will explain the difficulty?

Wishing the AMERICAN BEE JOURNAL great success,

I am, yours respectfully,

Bruce, Ont. J. ADERSON.

For the American Bee Journal.

What Killed the Bees.

In looking over the reports of the bee disease, I am reminded of the story of two men meeting before an Inn. One on each side of the sign. One said it was black, and the other stoutly affirming it was white. After disputing over it a while they changed places, when lo! and behold they were both right, for one side was painted white and the other black.

Both cold and poor-honey may kill the bees. I will give you my reasons of the way it is done. Bees in their various tribes are the only things that live on sweets. All animals die in a short time when fed upon it exclusively. A dog fed on it will die in 20 days. Scientific analysis has shown that sugar is neither mineral, nor vegtable, but that it holds a medium ground easily changed into either, which when thus changed becomes food for vegetable, or animal life. The bee in digestion changes it to vegetable, while a little water causes fermentation, which changes it back to mineral, making it only food for plant life. Now, it is *honey* not *vinegar*, that is food for bees. Since, honey, or syrup, so readily unite with water, causing it to sour, it can be easily seen why dampness in the hive is so fatal.

I come now to consider the cause of dampness in the hive. 1. A hive left out will remain dry so long as all dampness forms into ice. But carry it into the cellar in this condition, and the ice will melt, producing dampness that will prove fatal, while if it had been left out so ventilated as to carry off the water as it melted it would be dry and safe.

2. Close top frames, retain the moisture (in the cellar.)

3. Open top frames, closed below, retain the moisture.

4. A hole in the top with lower ventilation creating a draft, causes them to eat so much, as to pass it in a liquid form, arising in part from the dampness and stench arising from the dead bees at the bottom. Hence it will be seen that the difference in the frame makes it necessary to make a change in ventilation to keep it dry. Hence the difference in the various reports. Honey gathered late, thin and watery, will sour.

This is the other side of the sign. *Good honey kept dry and warm will winter bees every time.* But vinegar will not. Cold is the prime cause, with improper ventilation of producing dampness, which united with the honey or sugar syrup producing the mischief.

It remains now to determine how to winter bees so that they shall have good food, be kept warm and dry. Here I will simply suggest that the open top frame, covered with a quilt, *thin* enough to let the dampness escape, thick enough to stop a draft with lower ventilation, with the frames raised several inches from the bottom board, in a dry cellar, kept so by a tin pipe connecting the bottom of the cellar with the stove pipe, would be in fair condition to winter if it was warm enough. I have known bees to winter in '72-3 buried 3½ feet under ground, packed in straw, *below*, at the *sides*, and top, so that the straw absorbed the *moisture*, while every body's bees died through the county. They were box hives set upon corn cobs, that is raised about one inch from the bottom board. Two three inch ventilating tubes, this secured dryness and warmth. It is no small study to learn how to ventilate so as to keep the bees dry under all circumstances in all kinds of hives.

Dr. C. M. JOSLIN.

BEE OR WASP STINGS.—Spread over the part stung, a plaster of salad oil and common salt; if oil be not at hand, the salt may be moistened with water or vinegar. Another remedy is to keep the part constantly moistened with a rag dipped in sal-volatile and cold water, as strong as can be borne without raising the skin. Another antidote is everywhere available, for it is nothing more than common soil applied to the wound. This remedy has often been tested with complete success, and can be implicitly relied upon. The soil should be wet before being applied.—*New Facts.*

Foreign Department.

CONDUCTED BY CH. DADANT & SON.

For the American Bee Journal.

How a Swarm Hangs to the Branch.

There is not a person who, when seeing a limb bending under the weight of a swarm, has not wondered how the bees that are fastened to the branch can support the weight of the swarm. The question is asked and an answer sought for, but many remain silent before that problem.

Here yet is one of those marvels that the works of nature offer in such large numbers to our admiration.

It seems, indeed, contrary to all the physical laws, that an insect be able at will, to walk or remain still on a polished surface in an upturned position.

Such is however the case with flies, for they can walk on the outside of an horizon-glass-pane.

This adhering capacity is so powerful in bees, that a swarm weighing several kilogrammes is supported by a few hundred bees who are fastened on the underside of a branch, without their being visibly tired by the weight. Nature shows us there, an application of the physical laws, the existence of which man has discovered only after many centuries of researches.

It is hardly 200 years since the discovery of the power of a void space or vacuum that is, the cessation of equilibrium in the weight of the atmosphere on a determined surface, give us the explanation of this fact. It was in 1650 that Otto of Guerick from Magdebourg invented the pneumatic machine.

But for generations, children in play have repeated too simple and conclusive experiments on the force of a vacuum. The first consists in taking a hollow key and inhaling the air that it contains, thereby holding it suspended to the tongue or lips. This play is common with school boys especially during school hours.

The second is not so easy. They take a round piece of leather a few inches in diameter and fasten a string in the center of it taking care to leave no room for air. They wet it and then press it against a heavy and flat body, such as a flat stone, then by pulling on the string they can lift the stone. How can it be done, since there is no adhering substance between the leather and the rock? The explanation is of little moment to them; that which they know is that by pulling a soft membrane from a smooth body they encounter a resistance which is capable of lifting a considerable weight. Let us suppose this leather adhering to the ceiling, and it will support the same weight that it has lifted from the ground. It is exactly the same thing which takes place at the extremity of the bees legs when it fastens itself to the ceiling.

Enclose a bee in a box with transparent glass lid; then examine her with a good lens when she remains still with her claws fastened to the glass. You will see a hollow circular membrane that works exactly like the wet leather with which children play; only in a place of a string the bee has in the center a horny substance that she can draw at will, and that the weight of her body maintains in the proper position, so that she can sleep in this posture. They are like real cupping glasses, and when once stretched they adhere strongly without any exertion on the part of the bee. The heavier the bee is, the more the membrane is stretched. It explains the fact that a swarm weighing several kilogrammes, and heavy enough to bend the limb to which it is attatched, adheres to the branch only by a small number of bees, who support the weight of the rest, although in a reversed position. Modern science has even calculated the weight that can be supported by a vacuum in a determined space. It amounts to 1 kilogramme and 33 grammes on a square centimeter of space. The membrance of a bee's claw enlarged 60 diameter would cover a surface of over one centimeter. Each bee having 6 claws, 10 bees would be sufficient to bear the weight of 1 kilogramme.

It is easy after that, to understand how a swarm, however heavy, can remain suspended for hours without fatigue.

Dr. Bourgeois.

Translated from L Apiculteur, June 1874.

Rapidity of Bees' Flight.— Murray says that, connected with the transmigration of bees, is the question of the extent of their flight. He believes that two miles may be considered as the radius of the circle of their ordinary range, though circumstances will occasionally drive them at least a mile more. Judging from the sweep that the bees take by the side of a railroad train in motion, he should set down their pace at about thirty miles an hour.

Varieties of the Bee.—Don Felix d' Azara, a Spanish traveler, describes several species of bees found in Paraguay, South America. One is double the size of the bee of old Spain, and the smallest only one-fourth the size. But few had stings. The honey of the large bee was not good; taat of another intoxicated; and another produced violent pains and convulsions, lasting sometimes thirty hours, without serious consequences.

Notes and Queries

"I have had two swarms, nice large ones, from my bees, at this late date, Aug. 3. What shall I do with them? Of course there is no prospect of their filling their hives. Please advise me through the JOURNAL?" BEGINNER.

It is probable that your swarms *will* fill their hives and prepare for winter, if they are large ones as you say, though it all depends on your fall honey resources and the season. In the West, there are many localities where the best pasturage of the year, for bees, comes after the first of August. We, in our early days of bee-keeping have had swarms the latter part of August, and one year, we remember as late as the 10th of September that filled empty hives with both comb and honey, and wintered well.

In this, as in every other particular connected with bee-keeping, you must consult your own locality and also decide whether bees are more of an object to you than surplus honey. If you want an increase of stock, even if an early frost comes and your swarms do not fill their hives, you can strengthen from other colonies or feed so as to make them safe for winter.

If you do not care for more stocks, and prefer the honey, such swarms may be easily united with another colony, by following directions often given in this JOURNAL.

DEAR EDITOR:—My bee enterprise has been truly an uphill business. Last year was so rainy that no honey could be gathered. Consequently I had to feed my bees through the summer, fall, and winter. About the middle of February last, the swamp maple and the peach were in full bloom, and I flattered myself that there was a good time coming. But March set in with cold and rainy weather, which has continued so within ten days of the present time; hence slow progress has been made. About the 20th ult. the weather culminated in a four days storm of rain, wind, and lightning, which produced such a flood in this state as we have no record of since the days of Noah. The damage done to railroads, bridges, and farms, is incalculable.

I have this spring discovered a fact that I have not seen mentioned in the books. It is this: that if a few days of cold or wet follow after forming a nucleus, and giving them brood, could they fail to raise a queen? The reason I suppose to be, that they cannot gather the proper food for her embryo majesty until the larvæ is too old for the change. During the past unsettled weather, I have had to supply a nucleus with brood comb three several times before they succeeded in raising a queen. Since the weather has been fair they succeeded in every instance with the first comb given them.

Query. Will it do to take comb frames with adhering bees, from different hives and put them together to form a new stock, or would a frame with the adhering bees be put safely into another hive to strengthen it? J. APPLEWHITE.

You can take frames with adhering bees from different hives, putting all into a strange hive, and it is safe. Reason, bees are all away from home—all discontented and nothing to quarrel about—but if you take a frame from one hive and put it into another hive, even one containing a weak colony, and every adhering bee will be killed, unless you first seriously alarm and disturb the bees with which they are put. The best way to strengthen a weak colony from another, is to put in a comb of sealed brood, nearly ready to hatch.

DEAR EDITOR:—We have had a very good season for honey so far. I don't say this particularly to praise the season, but I notice the majority of the writers to the JOURNAL complain of a poor season every year. The spring was very backward, cold and rainy; we did not fairly get to breeding bees till June; most stocks, however, came through the spring well in this section, although many were reduced to a mere handful. Since the honey harvest opened, it has been all the apiarian could desire: bees have swarmed immoderately, black bees in box hives have swarmed 3 or 4 times each. We have had some trouble to keep down the swarming propensity in our apiary, but we have had but one that has made the second attempt. We have taken off 40 lbs. each of box honey, from several stocks. Our best stocks have put upwards of 100 lbs. each in boxes at this date; and have basswood now just opening. We would like to know if other box honey producers have the same difficulty in getting the very gentle, light colored, pure Italians to work in boxes. Our hybreds will put 100 lbs. in boxes while the pure pets are putting in 40 lbs. The pure ones are prolific, they keep their hives full

of brood, but fail to work in boxes to any satisfactory extent. We have one or two of the pure ones, out of quite a number, that have done well; but that is not enough to reclaim the race. We conclude they require black about them, to make good workers in boxes. We have queens so bright and yellow that you cannot discover any difference in color between the hip and upper part of the abdomen. When they are laying to full capacity they are prolific and very gentle; their hives are full of brood and bees, but they fail in the most essential point, that is working in boxes.

They will reproduce themselves in queen progeny, as we have bred queens from quite a number. We dislike to kill them, because we have been trying to raise such queens for 2 or 3 years, and have killed good hybreds last fall to make place for them. We think they would be just the thing for extracting honey. Would these queens, had they been fertilized by pure black drones, been worth more to us to-day than they are now?

The black bees have failed in my immediate neighborhood, so I have had no opportunity to try it the past year.

We believe those gentle ones are the pure Italian, and dark colored ones, that some breeders claim to be so smart, have just a dash of black mixed in; and if such is the case we can get some black drones and mix them in. J. P. Moore.

Binghampton, N. Y.

We have never given our Italians a chance to show what they could do in boxes until this year, because we do not believe it pays us or any bee-keeper to sell honey in the comb. This season, being sick through the best of the honey harvest, we were obliged (having no one to manage our apiary for us) to put on the boxes and let them do as they would. *We* certainly have no reason to complain that "Italians will not work in boxes." They have filled many for us. Let us hear from others who have tried it.

Please state whether refuse hops from a brewery are injurious to bees. There is a brewery located but ¼ of a mile from my apiary; and I see many of my bees working on them. What do they get from them?

E. Riebsamen.

We do not know what they get, or if it is injurious. Who can tell?

Query. How shall I prepare sugar syrup so that it will not grain?

A. D. Seward.

A little good cider vinegar, say a tea cup full to a half gallon, will prevent the syrup from graining. We prefer this to cream of tartar which some use.

Can you tell me what is the method of "hooking together the frames" in the Adair Hive, and how it is done? I want to try 3 or 4 in my own apiary. If not too much trouble I should be pleased to learn the method. W. Newton.

The sections and frames in Adair's hive are hooked by means of an ingenious, though simple wire clamp. It is impossible to describe it, but sections and wire, both, can be sent by mail by applying to Adair. See his advertisement.

I had a long confab with a lady, to-day, on the bee question, an idea she advanced made me think her beside herself as far as the knowledge of the bee went, she said when a bee-keeper dies, his or her bees will not prosper but die also; what do you think of it? A. McMillan.

This is a very old superstition, but as foolish as false. Yet we have in this nineteenth century, in our own house, seen a woman take a candle down into the cellar among the bees, and coming up, inform us that "the bees were all right, she had told them the dear little babe was dead! They would stay contented now."

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1. Will it be best to house bees during winter here, where the mercury rarely descends below zero?

2. How do you think it would do to cover the hive on its summer stand with hay or straw, so as to keep out the effect of warm sunny days?

3. How many inches should a hive contain, when the design is a plain box with upper and lower departments same size?

4. If we hang the sash across the entrance, will it give better ventilation than to hang it lengthwise. D. A. Shelton.

Logan Co., Ky.

1. Bees are housed to advantage even in such a climate as you describe, because it prevents their being excited by warm days and the consumption of honey is less. A friend in Kentucky writes: "My bees have been by your advice placed in a frost proof case for three winters and have paid me a hundred fold for the trouble it has cost me."

2. If you have no frost proof house or cellar they will do well on their summer

stands, if each hive is covered separately with straw or hay ; the entrance being left open so that they can come out if they will. Always put a mat or bee-quilt over the frames whether left out or in.

3. 2,000 square inches inside is the right size when two apartments are to be used, one above the other.

4. We can see no difference.

I have one swarm of Italian bees in the Buckeye hive, which I have had only six weeks, being my first experience in bee-keeping. They have already filled all the combs with honey leaving no room for the queen to lay. There is plenty of sealed brood but no eggs to be seen. As I have but one swarm, I do not wish to get an extractor this season, so I wish to ask through the columns of your journal, if there is any way in which I can extract the honey from a few combs, having brood in the centre, without the use of a patent extractor.

My bees are beginning to work in the small frames for surplus, and honey seems to be abundant yet, as the bees work every day. WINONA WASHBURN.

Big Thompson, Col.

We know of no way to extract the honey without an extractor, but you can remove one or more frames from the centre and put in empty combs if you have them ; if not, empty frames.

DEAR EDITOR :—Is it natural for bees to die this time of the year ? I discover when the nights are a little cool bees drop to the bottom board. Some nights quite a number die or are cripled, and during the day some came out of the hive in a crippled state, attempt to fly, but failing to raise off the ground, tumble around for a few minutes and die. What can be the cause of all this ? Is it natural for them to die off in this way, this time of the season ? I noticed that last season my bees died in the same way. Bees did well in this section of the country up to the 15th of July. Since that time it has been too dry. Bees are consuming more honey than they now gather. I have 84 stocks of bees, and winter in the cellar with success. Last winter I lost one out of 63. I would like to know where the Rocky Mountain bee plant can be had. I want some seed. Please answer in the next number of the JOURNAL.

Haggerstown, Ind. S. N. REPLOGLE.

We have never seen an instance of this kind and can give no information as to cause. Will some one answer who has seen it, and has a reasonable solution of the question. You can get all necessary information about the Rocky Mountain bee plant from H. A. Terry, Crescent City, who advertises in our columns.

Flax Cultivation in Nebraska.

It was once supposed that flax would only thrive on the sea shore; and hence Holland had what may be regarded as a great monopoly in the growth of flax, and the manufacture of linens. But the plant flourishes in Nebraska; and the soil is too rich for even this exhausting crop easily to affect it. The cultivation of the crop is therefore yearly increasing —at present with a view to the oil expressed from the seed, though (as there is now no linen manufacture worthy of the name in the State,) it may be ultimately to provide fibre for the mills. Certainly the people of Nebraska may look to this conclusion; and settlers in the State ought not to forget that flax may be made a profitable crop.

At a recent meeting of the Farmers' Association, of Lancaster County, held at Lincoln, (the county-seat and capital of the State,) a discussion took place on the probabilities of a flax crop for this year, and it was stated that some Eastern gentlemen had offered to build an oil mill, if the farmers would guarantee a sufficient quantity of the raw material. The correspondent who sends this item of information in the interests of farmers moving West, says that in Ohio the flax crop used to be a most profitable one. Half bushel of seed to the acre would produce from ten to twenty bushels, worth $1.50 per bushel. Taking the yield at ten bushels, the seed was worth $15 per acre; and allowing $8 per acre for expenses, (which included the delivery of the seed to the mill,) the net profit to the farmer was $7 per acre. The straw also was worth $6 per ton; and the yield was half a ton to the acre. Nebraska is more suitable for flax cultivation than Ohio; and farmers who migrate to this promising State, where the land is virgin, rich and cheap, may wisely keep this subject in view.

A speculative Scotch gentleman, wanting to dispose of some bees, to attract purchasers, printed the following placard: "Extensive sale of live stock, comprising not less than one hundred and four thousand head, with an unlimited right of pasturage."

REMEDY FOR BEE STINGS — A bee keeper says : "I have made one discovery, that a preparation of Ledum palustre (Labrador tea) homœpathically prepared, is a soverign remedy for bee stings." But he does not tell us how to prepare it.

Voices From Among the Hives.

JOHN DIVICKEY, Aurora, Ill., writes:—"Our bees have not done quite as well as we expected this spring, on account of the drought. Although they have paid me 100 per cent. I have now 43 good swarms."

E. MANGOLD, Cincinnati, O., writes:—"Honey harvest poor. In the spring of last year I lost 16 out of 36 stocks, and had the bad weather continued one week longer this spring, I might have again lost as many. I lost but one, but the rest were weak. I hope time will overcome our wintering and springing difficulties."

B. G. FORBUSH, Algona, Iowa, writes:—"This is my second season in bee-keeping—began one year ago last April with twenty swarms. Have now about seventy stands in splendid condition. Basswood season was short but rich, and now we have host of prairie flowers and buckwheat.

After twenty-five years of toil in the medical profession, 'tis a rare luxury to feel that I live at home, where my chief care and pleasure is my bees as I watch them.

'From every side, from earth and airs,
To the old man's ear sweet music comes,
As the busy millions bring their loads
Of treasure to their neat, white homes.'"

MYRON JOHNSON, Hamilton, Ont., writes:—"I cannot get along without the JOURNAL. I have nearly every number from 1868 to July 1874, and I find them very convenient to refer to. With us this has been a poor season. A cold, late spring, and no flowers since the 1st of August near the city. I have 54 stocks, some of which I am feeding up to the proper weight for winter."

G. T. W., writes:—"Bees doing splendid this season, what there was left. Nine-tenths of the bees in this county winter-killed, the past three winters."

MR. M. M., is a beginner with one year's experience, has only one swarm in a Langstroth hive, and has taken from it, this year, 12 boxes averaging 9 lbs. each of comb honey. Well done for the first year of "bee-ing!"

S. W. STEVENS, Ridgefield, Conn., writes:—"The season here has not been first rate for honey, yet I have taken an average of 43 lbs. surplus to the stock, and have increased from 21 to 38 good strong stocks."

MARTIN TERRY, Mo., writes;—"I have long since known that the large wood or bald hornet destroys bees, especially in cool, damp weather. I stood by a hive the other day and saw six hornets catch as many bees and wound others.

JAS. B. WILSON, Des Moines, Iowa, writes:—"I am sorry to learn of others loosing bees, in winter, and being troubled with moth worms in their hives. I have kept bees three years, and have wintered them on their summer stands, and have not lost any bees, either by freezing or disease, or been troubled by moths, in the least. I give the reason all to the kind of hive I use, I make it myself, and it is dry and warm in winter and cool in summer."

L. F. ABBOTT, Wilton, Me., writes;—"The season has been very poor for honey in this section. Spring was cold and backward, and bees swarmed but little and late. But few bees are kept in this part of the state and the increase has been less than 50 per cent. Old stocks, and first swarms issued previous to July 20 have generally put in stores enough for wintering. What surplus honey is taken is stored in boxes. The "extractor" era not having reached here yet, think I shall make the experiment another season if the honey harvest should promise fair, provided my bees don't "go up" this winter."

H. H. B., writes:—"I commenced the season with 46 colonies, some very weak ones, and had an increase of 80 colonies, 126 in all. That will average 75 lbs. of honey per hive. I have taken 3,500 lbs. with the extractor and 2,000 of box honey, 5,500 lbs. in all. I have sold 63 queens, 12 @ $5 each and 51 @ $1.50. I call this good for local trade. I have also sold 100 hives for $1.50 each; no margins on hives. I have shipped 4,000 lbs. to Chicago. This season has been the dryest ever known.

MRS. W. HARRIS, Buffalo, N. Y., writes:—"I have taken the JOURNAL ever since its first publication and cannot do without it while I am able to take care of one colony of bees. For the past 22 years I have kept bees, and my delight has been to take care of them, but age and infirmity tell me that I must soon rest from my labors, as I have already lived my appointed time (three score years and ten). During the past three years I have been disposing of my bees, thinking I would keep only a few colonies for my own family. This spring I had five colonies, and from them I have now 15 new ones, making 20. I have taken off 59 six pound boxes, and there are some 23 more that are nearly ready to take off. My health is so poor that I have never tried to use the extractor, and therefore I did not get as much honey as I should, had I used it; but I am satisfied. I was the first to use the Langstroth hive in Erie County. I have used it 19 years, and still use it. I have had other forms of hives, but the Langstroth is good enough for me. Bees have done well in this vicinity, this season. My best wishes for the lasting prosperity of the AMERICAN BEE JOURNAL."

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The American Bee Journal

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

OCTOBER, 1874.

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A Disappointed Bee-Keeper.

A correspondent of the *New York Tribune* gives his experience in bee-keeping in the following dolorous communication :—

"Eight years since, when I began farming, deceived by the stories I had heard of the enormous profits to be made from bee-keeping, I purchased four skips of common bees of a neighbor, and three skips of Italians of Mr. Quinby, in movable comb hives. I constructed a number of Langstroth hives, and in due time divided my Italians, and as the black bees swarmed put in the new swarms into the Langstroth hives. I made a bee hat, and rolled up a quantity of tobacco in old muslin. I frequently examined the bees in the frames, by first partly stupefying them by blowing smoke from the rolled tobacco into the hives and then lifting the lids. The common hive I left alone. On the approach of winter the hives were scarcely half-filled, and not a drop of honey was in the boxes. I made a room in the cellar, where I deposited them. The next spring all the honey was consumed, and but three living swarms were left; the combs were mouldy. At the beginning of the next winter I had four living swarms, which by purchase I increased to six. I left them on the stands all winter and in spring five weakly swarms were living. Hoping to obtain some surplus honey, I did not allow them to swarm; but not an ounce did they give me. Thus for five years I continued giving them constant attention, without receiving any surplus, and generally in the winter loosing all the increase of the swarms. That fall I had three weak swarms left, to which I applied the match, obtained a few pounds of honey, and abandoned the business in disgust. In certain favored localities bees may be profitable; but that they, on the majority of farms, can be made as profitable as certain venders of patent hives try to make us believe, I absolutely deny. Like everything else, they are attended with great risk. There is no royal road to wealth. One thing well tended is better than twenty half tended."

The above narration is a very suggestive one, and a few comments upon it may prevent others from becoming similarly disgusted with an important and profitable branch of rural industry.

In the first place, it is a proof of reprehensible gullibility for any man to be "deceived" into bee-keeping by the lure of "enormous profits." It is only speculative lines of business that ever pay enormously, and the instances of wonderful success are the exception and not the rule. For one who makes a fortune by speculation, there are dozens if not hundreds who lose fortunes in that way. The pursuits of honest industry are worthy of being followed, if they pay fair profits on capital and labor. This they usually do. Something is hazarded in every undertaking, but as a general rule, the investment of capital and the bestowal of labor in industrial pursuits, proves remunerative. Hence men are encouraged to persevere in these directions, notwithstanding occasional and exceptional drawbacks and losses. Bee-keeping belongs to that class of human occupations which

promise fairly paying returns for the money and time embarked in them. This is the representation uniformly made of it by all intelligent and practiced apiarians, who with one voice are prepared to warn beginners against the expectation of "enormous profits."

Furthermore, bee-keeping requires to be learnt. It is both a science and an art, and no one need anticipate success in it, who does not acquire a competent knowledge of the business. The *Tribune's* correspondent does not tell us what means he took to qualify himself for the task he undertook. He bought four common hives of bees and three Italians to begin with. This was a very risky thing to do. A beginner should not attempt to manage more than one stock the first season. If he will throughly attend to that, and take every opportunity of making himself familiar with the habits and wants of the busy little workers, he may, by and by, venture to keep more. In bee-keeping, as in every thing else, it is well to heed the couplet:

> "Little boats must keep near shore,
> Larger craft may venture more."

Our disappointed apiarian does not inform us what system of management he pursued. He got a bee-hat, a very wise precaution; he smoked the bees with tobacco fumes, which was very foolish, as they stupify the bees instead of taming them; and he "lifted the lids," a necessary step in order to examine the interiors of the hives and perform the requisite operations there, but whether he did anything after the lids were lifted, and if so, what, he does not tell us. We suspect that, like many more who try bee-keeping for a little while only to abandon and speak ill of it, he supposed the bees would take care of themselves, leaving him nothing to do but watch their movements, and pocket the "enormous profits" of the business. His ignorance and incompetence are sufficiently evinced by his winter mismanagement. The bees were stowed away with a meagre supply of honey, owing probably to over-multiplication of stocks. They do not appear to have been artificially fed, a most essential precaution when the store of food is insufficient. He had known enough to feed his stocks that first winter, they might all have been kept alive and vigorous, in which case, the second season would have had a very different record, and a prosperous apiary might have existed where now a few deserted hives, redolent of sulphur, proclaim the owner's incompetence and failure. No wonder the business was "abandoned in disgust." But the "disgust" ought to be awakened in view of the want of common-sense and practical skill painfully conspicuous throughout the whole affair. Let no one think these strictures unnecessarily severe. Only failure can be looked for under such circumstances, and it is too bad that an important industry capable of bringing in millions of national wealth every year should be brought into disrepute, by the negligence and incapacity of people who undertake a task they do not know how to perform, or as the Westerners forcibly express it, "fence in more land than they can till." We have a shrewd suspicion that our disappointed friend is inwardly conscious his failure is largely his own fault, from his concluding reflection, "one thing well tended, is better than twenty half-tended." To which we beg to add, that in agricultural pursuits twenty things well tended are twenty times better than only one thing well tended. A system of farming such as is known by the name of "mixed husbandry," includes the culture of grain, stock-raising, fruit-growing, dairying, poultry breeding, and, last but not least, bee-keeping, is in the majority of cases the wisest one to pursue. If several branches of profitable rural industry are kept going, it is not likely all will fail. The season that is bad for one branch will be good for another, and thus, from year to year, the operations of the farm will pay.

It is as well to remark, in conclusion, that all localities are not equally suit-

able for bee-keeping. We believe there are few farms on which bees, properly managed, cannot be kept with some profit, but there are neighborhoods, and multitudes of them, peculiarly suited to bees, where perhaps hardly any hives are kept. What we contend for is, that bee-keeping deserves to rank side by side with the other economics of the farm ; and we maintain that while "enormous profits" are not to be expected nor cases of failure prevented, there are few investments of time, trouble and outlay that will pay better, if indeed so well, as those connected with a rightly managed apiary. C.

Timely Suggestions.

The cold nights of this month should remind bee keepers that rugs, mats or quilts are needed on all colonies. Even the strongest are the better for this comfortable provision, and the safety of the weak ones absolutely depends on it. Examine and be sure that no hives have combs of sealed honey in the center. If there are any,an exchange may be profitably made between the empty combs of one colony and the full ones of another. The entrances of all hives may be contracted and mice absolutely shut out. Though the danger is less now than in the spring, still it is best to prevent it.

All necessary feeding must be done now, and enough may be given in two or three days to any colony to prevent starvation. We have taken a hive filled with combs without one ounce of honey, put in a good swarm of bees feed them 20 pounds of sugar syrup in three days, had it all taken into the combs and sealed over, and no colony could winter better under any circumstances than did this one. We do not advise this way, as best by any means; but suggest it as possible to those who have colonies that will starve in their present condition.

If a colony has too few *bees*, it is useless to feed it unless it be kept in a warm place and fed regularly a small quantity at a time to keep it increasing in number. This involves trouble, and may not pay, but it can be done.

Be sure that you have a queen in each hive. It is not well to disturb bees in this month, except when they are flying freely on their own accord. Always select such days to open hives, and do it quickly as possible. The less they are disturbed, the better, after the working season is over. T.

Premiums at County Fairs.

The manner of offering and awarding premiums for bees, queens, honey, etc., etc., at some of our County Fairs is amusing to those acquainted with the business. Look at the following, for instance, which we cut from a premium list.

Best Italian queen bee, caged	$10 00
2d best	5 00
Best black queen bee, caged	8 00
2d best	4 00
Best collection Italian drones, caged	4 00
Best collection black drones, caged	2 00
Best collection Italian workers	6 00
Best collection black workers	3 00

How much the judges can tell about a queen bee by looking at her caged, any bee man or woman can tell you. She may or may not be prolific, she may be a drone layer, (the very best looking queen we ever saw never produced a worker bee !) How are the judges to decide by her looks whether she is worth the $10.00 premium or is one of the kind which Novice describes as dear if sold three for five cents. We have little doubt that one of the worthless ones would look better to the judges than a pure prolific imported queen.

It is often the case that a beautiful bright queen raised from a pure mother is fertilized by a black or hybrid drone, yet this does not effect her looks in the least.

Can our judges decide this matter by looking at her in a cage?

We think further comment on this

head unnecessary. The premiums usually offered for honey are generally of like character. Some who have taken no pains with their bees may have a box of honey that will please judges better than the honey on exhibition by a bee-keeper who has taken unwearied pains and succeeded in making his bees pay big profit. We have seen this.

Until some way is found to remedy this injustice there is little use in bee keepers competing for premiums, although it may, and doubtless does, pay those who wish to make sales to advertise their bees, hives or extracts by exhibiting when such advertisement is not too expensive. T.

Honey Markets.

CHICAGO.—Choice white comb honey, 28@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith 419 North Main st.

I am overrun with inquiries for the sale of honey and asking what I will give for honey, etc., and I wish you to say through the JOURNAL for me, once for all, that I do not *buy* honey at all. I have sold a great deal of honey for parties where they have sent me samples and I have sold from the sample, which I will continue to do and will insure prompt payment for all honey on delivery here, and as the prices are low now I would advise patience to all who have honey to sell as the market is very dull for extracted here. Now, nice box will command 30 cents, and very good sale, and extracted slow at 12 to 16 ℔ lb. for good to choice.

W. G. SMITH.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO. — Quotations from Stearns and Smith, 423 Front st.

☞ Strained Southern Coast, at 7@10c; Comb, 12@20c; the latter figure for San Deigo, in Harbison frames.

STEARNS & SMITH.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents each for, to complete them.

We have several single volumes (complete) which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.50 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

☞ We want several copies of No. 1, Vol. 2, of the AMERICAN BEE JOURNAL, and will pay 50 cents each for them.

☞ It will be a source of gratification to us if all those in arrears for the AMERICAN BEE JOURNAL will settle the same as soon as possible. Our increasing circulation vastly increases our regular monthly expenses for paper and printing. "A word to the wise is sufficient."

When a subscriber sends money in payment for the AMERICAN BEE JOURNAL, he should state to what time he thinks it pays, so that we can compare it with our books, and thus prevent mistakes.

The postage on this paper is only twelve cents a year, if paid quarterly or yearly in advance at the post-office where received. We prepay postage to Canada, and require twelve cents extra.

☞ Let every one writing this office make all Postal Orders, Drafts or Checks, payable to THOMAS G. NEWMAN. Address everything of whatever nature to

THOMAS G. NEWMAN,
CEDAR RAPIDS, IOWA.

American Bee Journal,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CEDAR RAPIDS, NOVEMBER, 1874. No. 11.

"Winter Bee-Keeping."—A New Method.

A PAPER READ BEFORE THE MICHIGAN BEE-KEEPERS' ASSOCIATION, AT KALAMAZOO, MAY 6TH, 1874.

BY H. E. BIDWELL.

When cold weather comes on in the fall, bees collect together in the hive to keep warm. As the cold increases, they pack more closely, and resort to the consumption of honey to preserve the heat. This increases the action of the respiratory organs, which exertion creates an unusual waste of the system, more than the perspiratory organs can throw off; this collects as fæces, and necessitates flying out to remove it. This waste of the system calls for the consumption of bee-bread, which contains much foreign matter, and further increases the necessity of flying out. If prevented, these accumulations clog and weaken the perspiratory organs, and sooner or later admonish the bees to leave the cluster, when they become chilled and perish. This gradually diminishes the number of the bees, so that by spring, if the colonies are not wholly reduced, they are weakened so that much valuable time is lost in regaining their strength.

If the honey is thin from the want of sufficient evaporation before sealing, or if the perspirations are not removed from the hive, as is usually the case in damp cellars or moist weather, the excretions become thin, and dysentery follows. This augments the necessity of flying out.

Having bought some bees last winter, which we were anxious to fly before putting them in the cellar, and having near at hand some empty hot-beds—which had been dug out in the fall for the purpose of filling early in the spring—we thought perhaps a swarm might fly in one; something risked, something gained; se we put one in. The beds were roomy, 6x12 feet, so that four sash 3x6 feet would cover them. The depth was about three feet, with a slope to the glass of one foot. In about twenty minutes after putting on the sash —it being mid-day, with a clear sky—the temperature arose within to 70 degrees, and the bees commenced flying briskly and voiding freely. At night we found *every bee had returned to the hive.*

The next day being clear, we put in two more; the next four; and the next eight. These all returned so well to their respective hives, that we next put in eight more, two deep. Being so well satisfied with the result, and having six of these large hot-beds dug out, we flew 111 stocks, as occasion required, until spring.

The only caution I would suggest would be not to fly them too often, which can be be readily prevented by covering the sash with boards.

Occasionally the bees will alight on the hives or collect on the glass, if the atmosphere gets hot and close within; they can easily be dispersed by sprinkling straw on the glass to shade the bees and cool off the bed. A similar occurrence frequently happens out of doors, on a warm, close day, after the bees have been confined some time in their hives; they alight on everything, and remain until cold or hunger reminds them of their home.

The advantages accruing to this method of wintering bees are—you can safely fly them at your pleasure; none are lost in the chilly winds or snow, or on the cold ground, which increases their value in our estimation two-fold.

ED. JOURNAL:—Some one asks for Mr. H. E. Bidwell's method of wintering bees, as it was given at the Michigan Bee-Keeper's Convention. The following letter was received by me just too late to be presented at the Convention.

SOUTH HAVEN, Mich. April 30th '74.

FRANK BENTON, Sec'y:—

DEAR SIR:—Please add to my remarks on wintering bees as follows;

The temperature of the beds on cloudy days, or when covered with boards on clear days, ranges from forty to fifty degrees, while on clear days with the sun shining in, it is from seventy to eighty degrees under the glass. When the temperature is suitable outside, the sashes can be removed.

As far as my observation goes from fifteen to twenty days is often enough to fly and soon enough to go to their stores for removing honey to the clustering bees.

These facts ought not to be overlooked. Sunshine purifies the air, and exercise preserves the health of the bees.

Yours respectfully,
H. E. BIDWELL.

Mr. Bidwell certainly deserves thanks for his valuable paper and if his method should prove a success generally we are sure the bee keepers of the North will give him proper credit. We would like very well to try the experiment of wintering some bees under sash, but just now we are chuckling over the idea that we'll not be "tinkering" our pets to death in the "Sunny South." Quite comforting!

Edgefield Junction, Tenn.
FRANK BENTON.

Bee Report.

My bees have not made as much honey as in summers past, owing to the white clover being winter killed. They have swarmed more than usual and laid up winter stores, and made some honey from buckwheat and other flowers.

I have been led to ask what has caused such a mortality amongst bees the past few years? Have we not varied from nature's path, in various ways? The Creator placed them in hollow trees in the forest, and this is why they incline to go there in swarming time. It seems they winter there better than in our hives. How rare is it that a tree is found with bees all dead or mouldy comb? this has led me to think that we have strayed from their original mode of living.

They have no upward ventilation, and but one place of egress and ingress, and need but little air; and had it been needful, no doubt divine wisdom would have caused it to be so, for he made all things perfect. The atmosphere is different in the forest; the sunshine does not start them out until the air is warm enough for them to fly, and when they swarm they do not go to some apiary, but look for another hollow tree in their native home. But the art of man has brought them to our doors, and now comes a change of climate. The sunshine is more severe, storms and winds much harder, and winters more blustering. This makes it necessary to vary in managment.

I think now that I gave my bees too much ventilation, and shall try different ways next time; part upwards and part other ways, and see which is best; and I wish that others would do the same, some out of doors, some in the cellar. We had better luck in old box hives, in the spring than now we have with all our improvements.

The Italian bees are making headway here and will soon be a majority.

Marcellus, N. Y. A. WILSON.

Bee-Keepers' Meeting.

The Utah Bee-keepers' semi-annual meeting was held in the City Hall, Oct. 8th, President A. M. Musser in the chair.

Six counties, viz., Salt Lake, Davis, Utah, Juab, Iron, and Tooele, were represented.

Mr. Chas. Monk, from Utah Co., stated that he and his son had attended in his own apiary 135 stands. The average increase in honey per hive was forty pounds, valued at thirty-five cents per pound. He had owned bees five years, had the moth miller or bee moth there. But no fruit in Spanish Fork was wormy as yet.

Vice-president J. Morgan stated that the committee on correspondence had prepared each month an article for publication as requested. There was a great difference between the bee moth and the codling moth. He had taken from eleven hives 460 pounds of extracted honey and 120 pounds of capped honey, in surplus honey boxes.

Geo. Bailey, of Mill Creek, reported his bees doing well and in excellent condition for wintering. He had considerable loss last winter and spring, but had replenished his stock, and had taken 1,640 lbs. of honey. He recommended those who owned bees to take a bee journal and attend to their own bees, for it was a nice study, and all could learn a lesson from the little honey bee, who was in the United Order. It was not the bees that bred the codling moth.

Mr. Samuel McKay stated that bees in his neighborhood had not done well this season.

Mr. J. Barlow, of Davis county, said that owing to ill health he had only done tolerably well with his bees, but he could have done better. He had taken 500 lbs. of honey from thirty colonies. He recommended to sow seed for pasturage and to keep the bees as purely Italian as possible. He thought the business profitable.

D. Miller, of Farmington, said that he lost several hives last spring by a cold east wind, and that indoor wintering required considerable care and a suitable dry cellar. The white or sweet clover, was a good honey plant, especially for late honey.

Mr. C. Merkley gave his experience in bee culture.

Mr. T. D. Shodder, of Juab Co., stated that he wished to help his bees, and from four hives last spring, they had increased

to ten, and he had taken 205 lbs. of honey. He took a bee book and attended his own bees.

Mr. Rydalch, of Toocle Co., said that the disease called foul brood had been in one of his hives last spring, and in dividing and swarming, had spread it into other hives. His bees had not done well.

Mr. I. Bullock, of Provo, gave his experience with foul brood.

Doctor Crockwell recommended a solutation of one ounce of carbolic acid to a gallon of water as a disinfectant for hives that had contained foul brood.

Mr. L. Root, of Iron Co., stated that his bees had done well. He had taken 150 lbs. of honey, and had doubled his stock.

Motioned that Chas. Monk be added to the publishing committee. Carried.

Motioned that Messrs. I. Bullock, J. Morgan, C. Monk, and G. Bailey prepare an article, on foul brood, for publication. Carried.

Prest. A. M. Musser stated that in the southern settlements they accused the honey bee of sucking the juice from the grape, but it was proved that the wasp or yellow jacket punctured and broke the skin of the grape, and the bees worked upon the broken fruit, but not upon the sound. He said that Mr. J. E. Johnson, of St. George, had done remarkably well with his bees in increasing of them. He urged it upon the members to be diligent, to learn all they could, and to make bee culture a successful branch of home industry.

Dismissed by J. S. Tanner. Adjourned *sine die*.

GEO. B. BAILEY, Sec. *pro tem.*

Voices From Among the Hives.

HENRY BOSSHARD, Highland, Ill., writes :—"This year, all around, the harvest in honey very rich. Spring and autumn good for our bees. Honey @ 25 cents ₱ lb easy to sell."

DAVID BROKAW, Maple Work, Wis., writes :—"I am going into the bee businees quite extensively, raising queens etc. I expect the coming winter to get some new subscribers for the JOURNAL. We have mostly black bees all in old box hives, and am urged to bring a better hive and bees into this county ; which I can do without patent rights. My report for this year, in short, is this : I commenced with 13 stocks last spring. Increased them to 46, now in good condition for wintering. In box honey, about 800 lbs., which has paid me about 500 per cent. I expect to transport some 20 stocks of my best Italians to my new home. My family is now there and I am here at Oconomowoc, Oct. 26, 1874, preparing my bees for shipping. Success to you in keeping up a good Bee Journal, filled with facts and not theories merely."

S. H. BLACK, Sciota, Ill., writes :—"Bees have not done well here this season. From 40 colonies I had 7 natural swarms ; the season being too poor to divide them. The white clover failed, but bees filled up from heartsease, this fall, and stored some in boxes. My bees are Italians. Black bees nearly all starved here last winter. I am well pleased to know that two of our Bee Journals have been consolidated. Will try to send you more subscribers."

E. OTIS, Batavia, Ill., writes :—"One year ago I put 50 colonies of bees in winter quarters. They all wintered well. The spring was very cold. I lost ten, and the rest were very weak. I increased them to 97, and took 2,600 lbs. of extracted honey. My bees are Italians ; they are the bees. My hives were full combed."

N. D. WEST, Breakabeen, N. Y., writes: "Bees done well in this vicinity this season. I use a hive which contains 1,740 cubic inches, inside of the frames, and like it well. I think it large enough. Is it not more profitable to use two hives this size than to use a hive twice as large, when with the small hive it gives me the most honey and swarms, and are much more convenient to handle. I winter with success in the cellar."

THOS. PIERCE, Gansevoort, N. Y., writes :—"My bees have done better the past season than for five seasons before. I started with 16 colonies. I have had over 30 natural swrrms ; have over 500 lbs. of box honey. I shall start this winter with 30 swarms and if they live through the winter, I hope to have a good time next season. This has been a very cool season, and very backward ; but the fall has been very favorable, and my bees made over 100 lbs. of white honey. My bees are all black ; I have tried Italians, without success. Success to the AMERICAN BEE JOURNAL."

WM. REYNOLDS, Lexington, Ill., writes: —"I have had from 40 to 80 colonies every season since 1868, and have lost none, except a few that were queenless in the winter of '71 and '72. Honey season in '74 very short, in consequence of the drouth, yet I obtained 953 lbs. extracted, and 250 lbs. box honey from 45 colonies, last spring, (sold 15 in May) and now have 47 in good condition to winter. I do not anticipate any loss from wintering or springing (unless queenless) at any future time, as my success, for six years past, is fully demonstrated. I do not

winter bees in the cellar, nor out sf doors but in a brick house, expressly for keeping bees both summer and winter, where the mercury varies from 20 to 40 during winter. I would prefer to winter bees below than above 32, when protected from sudden changes."

N. P. ALLEN, Smith's Grove, Ky, writes:—"I send you six new subscribers with the money. I am pleased with the consolidated Bee Journal and will work for its success. Our honey harvest has been the richest we have had for years, and the cultivation of the honey bee has taken a fresh impetus, in consequence. I have an apiary of 42 Langstroth two story hives, with 20 frames. I succeeded in taking from one hive 423¾ lbs. of honey, from another 365 lbs., and from 16 stands 3000 lbs.; all extracted. I have R. R. Murphys extractor it runs with ease, and I like it very much. I hope to be able to attend the Annual Meeting of the North American Bee Keepers Convention and to meet many of the prominent Apiarians of the world there."

H. GOODLANDER, Leesburg, Ind, writes:—"Last April I had only one queen and 15 workers. I purchased one weak stock of black bees, put my Italian in, and I now have 13 good colonies. I have on hand 39 gallons of honey. Shall winter on summer stands this winter. The hives placed in a box, filled with saw dust; entrance open and free. My reasons for so doing is to try to spring them better."

If Mr. Replogle will send me his address, I can give him some Rocky Mountain seed.

NORTH AMERICAN BEE-KEEPERS' SOCIETY.

OFFICERS: Seth Hoagland, Mercer, Pa., President; Abner J. Pope, Indianapolis, Secretary; J. S. Hill, Mt. Healthy, O., Treasurer; D. L. Adair, Hawesville, Ky., Cor. Secretary. With one Vice President in each State, Territory and Province.

The payment of $1.00, annually, entitles to Membership, and a copy of the Transactions, when published.

The Fourth Annual Session of this Society will be held in Pittsburgh, Pa., in the Hall of the GERMANIA SAVINGS BANK building, 4th floor, corner of Wood and Diamond streets, on the

Second Wednesday of November

next, (11th day,) at 10 o'clock, A. M., to continue three days.

HOTEL ARRANGEMENTS.

We have arranged with the following Hotels to entertain members of the N. A. B. K. Society at the prices named, which is from 50 to 75 cents per day below their regular terms:

ST. CHARLES HOTEL, corner of Wood and Third streets, *Harry Shirls* proprietor, will charge $2.50 per day. Can entertain seventy-five persons.

ST. CLAIR HOTEL, corner of Penn and Sixth streets, *J. N. Anderson*, proprietor. Can accommodate 100 members at $2.00 per day, or $1.50 to those taking rooms with two beds.

HARE'S HOTEL, on Liberty street, near St. Clair, *Samuel Hare*, proprietor. Can keep 100 members at $1.50 per day. This is a regular Farmers' Hotel. Mr. Hare has stabling for 100 horses, and can accommodate those who come with teams.

MANSION HOUSE, No. 344 Liberty street, *G. Bennet*, proprietor. Terms to members, $1.50 per day. Can keep sixty. This house is situated near the Union R. R. Depot.

CENTRAL HOTEL, on Smithfield street, between 2d and 3d avennes, *J. G. Barr & Son*, proprietors. Will entertain forty members, at $2.50 per day.

RAILROAD ARRANGEMENTS.

Arrangements with the following named Railroads have been made, and orders received to procure tickets to pass persons who wish to attend the meeting, to and from, at usual excursion rates. They are signed by the Superintendents of the roads, and require the ticket agent at all the stations on the roads, to sell to persons who present them, a ticket to attend the meeting at usual excursion rates. Within the coming ten days, one of these orders will be sent to each of the old members, as well as all others who are known to contemplate attencing the meeting. Those wishing to attend, who do not receive orders by the 1st of November, will notify the undersigned by letter, when a Ticket Order will be promptly forwarded:

Pennsylvania Railroad.
Philadelphia & Erie.
Northern Central.
Erie & Pittsburgh.
Allegheny Valley.
Pittsburgh, Cincinnati & St. Louis, including Indianapolis, State Line and Chicago on the West, and Cincinnati and Dayton on the South, and all points between those places and Pittsburgh on the line of these roads as far as and including Steubenville on the East.
Cleveland & Pittsburgh.
Baltimore & Ohio.
Pittsburgh & McConnelsville.

Negotiations are making with other Railroads to obtain similar grants, with an expectation that they will be conceded. Those sending for Ticket Orders will please name the roads they wish to travel over to Pittsburgh.

All persons interested in Bee Culture, and those wishing to become so, including ladies, are invited to attend this meeting. Able speakers will be present, and animated discussions will be had on practical Bee-Keeping.

Those having valuable improvements in Bee-hive, Honey or Wax extractor, or any other improvement in Bee-culture are invited to bring them along for exhibition, as a room is provided for the safe keeping of such articles in connection with the Hall, and an opportunity will be given to show them.

The entrance to the Hall on days of meetings will be marked by a display of Honey and the Stars and Stripes.

SETH HOAGLAND, President,
N. Am. Beekeepers, Society.
Mercer, Pa., P. O. Box 167.
Oct. 17th, 1874.

For the American Bee Journal.

Pink-Blossomed Milk Weed.

In "Notes and Queries" in your JOURNAL of September, W. M. Page, of Branch county, Mich., wants you to tell him what is the matter with his bees. My explanation to him is this: It is caused by work on the large Pink-Blossomed Milk Weed, growing on wet ground or sides of ditches in wet marshes. I have cut down acres of this weed in August last. His bees are not fighting; only carrying from the hive, bees that are affected by working on this milk weed, with their feet gummed up from the stickey substance, and pollen of this weed. It seems impossible for the workers to remove this from their feet. The workers will carry them out as often as they attempt to enter the hive. Finally you find them lying around on the ground with their feet stuck together, and the bees dead. It yields a large amount of honey, and bees will go miles to work on it. Many bees are found sticking fast to the blossoms. My stocks were suffering badly from work on this weed. I hunted out its location, and cut down all of it within two miles of me, and the cure was complete for this year. It is in full blow here from the 25th of July to the middle of August.

Ripon, Wisconsin. R. DART.

For the American Bee Journal.

Bees Swarming.

Why do bees go to the woods when they swarm? This question has been asked by several, in the BEE JOURNAL, and answered by others; but my views are different from most of them in some respects. There are many kinds of bees created, and the Creator has given them the faculty to perpetuate their race. He has provided them a home according to their need. Some, it is said, live in the ground, but those amongst us, the Creator placed in the forest. He caused trees to leave hollow places in them for a home, and he has caused some kinds of trees to have gum issue from them for the bees to obtain it and wax the inside of their homes; and endowed them with the instinct to build one kind of comb for raising drones; another for worker bees; another for raising queens, and another for storing honey, and has caused trees and vegetation to produce honey and pollen for their food; and after they have increased and become numerous, He has given them the inclination to divide, and the signal is given for a part to leave. It is supposed that the queen gives the orders, but how many are to go, no man can tell, until after they leave; but it is evident that a certain number are called, and they take a portion of honey and pollen to eat on the way, and until they have a home of their own. Of those that are to remain, a part are in the field and a part are at home taking care of the young. Those that leave, go to another tree and form another colony.

The art of man has brought them to our doors, and it would seem that they were intended for our use, for they often lay up more than they need for their own use, and the overplus can be taken away; and when they swarm, there is no confusion or disorganization about it. The Creator has ordered that a part should leave and form a new colony, and they leave in regular order, according to the instinct given them; and if not hived in regular order, they go to the forest, their original home, where the Creator first placed them. This is why they go to the woods when they swarm.

My bees have swarmed plentifully, but have made but little box honey, owing to the scarcity of white clover.

Marcellus, N. Y. A. WILSON.

Honey Men of Oneida, Ill.

Several of the bee-keepers of Oneida clubbed together, and sent to Wisconsin by I. W. Cramer and bought eight bushels of buckwheat, which they gave to Mr. Dater, who sowed nine acres of ground with it, just east of town. It has been in bloom for some time, and consequently there is a lively time just now among our bee-keepers. There are two honey extracting machines in town, W. M. Kellog's and I. W. Cramer's, which throw the honey out of the comb, leaving bee-bread, etc., in the comb and returning it to be filled again by the bees. Following is a list of the bee-keepers, number and style of hives, and amount of honey taken for the week ending Sept. 12, 1874.

By W. M. Kellog, for P. Mohler, 7 Kellogg's Improved Langstroth hives, 176 lbs.; Dr. D. W. C. Bacon, 4 Langstroth hives, 70 lbs.; A. S. Curtis, 3 I. W. Cramer's hives, 42 lbs.; Dr. D. D. Martin, 2 Cramer hives, 20 lbs.; E. J. Peterson, 1 Kellogg hive, 40½ lbs.; D. Hamilton, 2 each Kellogg and Cramer hives, 45 lbs, and at Kellogg's own yard, 7 hives, 245 lbs. By I. W. Cramer, for T. Parsons, 2 Cramer hives, 36½ lbs., and at Cramer's own yard, 200 lbs., 12 hives. Mr. Cramer has run his yard more for queens than for honey. If we are favored with the continued fine weather, the yield of honey will be doubled. 875 lbs. of honey at 20 cents ₩ lb., is the snug little sum of $175, for one week's work with the little stingers.—*Galesburg Reporter.*

For the American Bee Journal.

A Visit at Sweet Home, and What I Saw There.

Sweet Home is located in Illinois, county of Mercer, twelve miles south of Muscatine, and seven miles north of New Boston. The Apiarian is a man of about twenty-five or thirty years old, weighing about 140 pounds, and in opinions either religious or hygiene, is radical. We were a little surprised to find the family consisting of only two, Mr. Palmer and an active boy, of two years old, both of whom are very fond of honey. They can eat 1½ lbs. per day. He calls the boy Honey. Why? Because that's his name.

Mr. Palmer's house is quite peculiar and handy. The observing hive we would never tire of looking at. For a young man, he has quite a collection of books and a cabinet of specimens of various kinds. He is making bees and fruit his business. The bee pasturage of Sweet Home consists of (before August) lynn, white clover and a variety of minor sources. About the first of August or the middle of July his bees roam the Mississippi bottom, which is four miles wide and twenty miles long. In autumn it is one bed of flowers. Sweet Home being on the bluff over-looking the bottom, is well situated for both up-land and bottom range. Up to this time (Aug. 10th), his bees have been idle only three days this season. His apiary at present consists of 75 hives, in Longstroth and Thomas' hives; being an increase of 40 hives, and has about 1,200 pounds of slung honey and 400 pounds of box honey. He thinks by time of frost that he will double that amount of honey, and increase to 100 hives.

He increases as follows: He raises his queens from the best queen; he puts his queen cells in a nursery until hatched; then as soon as out of cell (he examines twice a day), he introduces by putting in honey a few hours after forming. To start a hive, he takes two combs of brood *cutting out*, with adhering bees, and puts in the hive next to one side, then puts a division board close against them. As soon as the young queen is fertile, and has supplied the two combs with eggs, he puts in two combs, one empty and one of cutting brood. This he repeats once in three to six days, owing to the weather and strength of colony.

He, like others, has been trying to raise queens from eggs sent him by mail; he got some of Dadant's imported stock, and succeeded in getting two queens, after five days on the road. He tried eggs from "Novice's" queen, but failed.

He keeps a record of his hives on *slates* about 2¼x3 inches. Take common school slates and cut each in six to twelve pieces, according to size; cut by straight-edge and any sharp instrument; drill a hole with a pod bit, and hang on a nail; drive the nail a little downward, so that winds will not blow the slates off; write with a slate-pencil, and it will be plain for a long time. To erase such writing, it is necessary to use water and friction, so storms will not affect it.

He told me of one of his neighbors having a swarm of bees hang on a tree for seven days, when they were taken down and put in a hive, and are now at work.

ON THE WING.

For the American Bee Journal.

My Italian Bee Experience.

Bees have done well here this season; I think the best in twenty years that I have kept them. I wish to tell my experience with Italian bees.

Seeing an advertisement in the JOURNAL, I sent the price for two; they came all right, and were introduced to two of my best stocks. Then I commenced feeding them, it being very dry here. One of them commenced laying, and in about four weeks they had brood flying. She was a hybrid, having bees from no bands to three. She died in the hive in February, leaving a fair swarm, which I put with the other one. They did not raise a bee till March; I watched them with much interest. They soon had them capped, some cells being longer than others, all mixed among the brood. They hatched out in due time a fine lot of little drones as ever need to be. That queen could not keep the colony up; she died or was displaced by the bees in July. I wrote the man, I think, in April, sending the price of another, and asking him to replace one of them. He wrote me back, saying he would send them as soon as he could raise them. I waited till August, then I wrote to know why he had not sent them. He returned no answer, but sent a dark colored queen, which I introduced to a black swarm. She raised a mixed brood. Drones are black. I have three queens raised by her; they are black now. I call that a black queen fertilized by an Italian drone. Now if those are Mr. Alley's best queens, how long would it take to Italianize an Apiary? My loss by the transaction is, two good swarms; two queens, at $1.00, and one at $2.25. The last one was very prolific; she filled two hives with brood, then led off a swarm. I filled the second hive with comb.

My best wishes for the consolidated JOURNAL.

C. A. SARGENT.

South New Berlin, N. Y.

The Folk-Lore of Bees.

This subject is far from being exhausted by the interesting paper which appeared in the *Gardeners' Chronicle* for June 20, and it seems worth while to supplyment it by a few additional details, which I find entered from various sources in my "folk-lore" note-book. It seems to me that "J. F. R.," is a little too severe upon superstitions, which, although "foolish and ridiculous" from a strictly commonsense point of view, are at any rate harmless in themselves, and which doubtless have their bearing, even if we do not at present see how, upon the former history of the ethnology of Great Britain. However, my object is rather to add fresh matter than to criticize, so I will not dwell further upon this point.

A mediæval tradition regarding bees may worthily occupy a foremost rank in our list, as it is still current in Cornwall, and has been elegantly versified by the Rev. R. S. Hawker, vicar of Morwenstown. This tells us how a woman, finding that her bees did not thrive, obtained a consecrated Host and placed it among them, having been told that by this means they would be rendered more fruitful; and so it proved. The bees thrived apace, and when the woman in due course went to take the honey, she found in the hive "a chapel built by the bees, with an altar in it, the walls adorned by marvellous skill of architecture, with windows conveniently set in their places; also a door and a steeple with bells. And the Host being laid upon the altar, the bees making a sweet noise, flew round about it." This legend, in various forms and with different details, appears to have been very popular, and is found in various religious works as late as the seventeenth century.

The notion that bees will not thrive if purchased is prevalent not only in many English counties, but also in France, and I notice that the French bee superstitions generally correspond very closely with those of England. A hive of bees may, however, be exchanged for another object; just as in Cornwall they are transferred from one owner to another with the tacit understanding that a bushel of corn or in other places a small pig (which is fair equilavent) is to be given in return. Both French and English bees are so possessed with the spirit of honesty that they will not thrive if stolen; indeed, the French bees will find their way back to their lawful owner. So discriminating are they, that should they come in the possession of a person of bad reputation, they will desert their hives and seek a more worthy master.

The very general English custom of announcing a death to the bees, likewise prevails in some parts of France. The announcement of death in many English villages, and even in the classic town of Oxford, is, or was, made by tapping three times on the hives with the house-key, saying at the same time, "Bees, bees, bees, your master is dead, and you must work for—" the future owner. Nor is this all; for the bees are also invited to the funeral, at least in the Sheffield district; and it is considered that they will die should this compliment be omitted. In Devonshire, too, a correspondent of *Notes and Queries* says: "I once knew an apprentice boy sent back by the funeral *cortege* by the nurse, to tell the bees of it, as it had been forgotten. They usually put some wine and honey for them before the hive on that day." Another funeral bee custom, formerly very general in Devonshire, was that of turning round the hives belonging to the deceased at the moment when the corpse was taken out of the house. It is a sign of death not only when bees settle on "dead wood," but also when they desert their hives and die; and in Cumberland if they rise and do not stay during a critical illness, it is a certain indication of death.

Bees have a great aversion to quarreling, especially between man and wife, but in some parts of France are supposed to attack those who swear, and on this account children are warned not to use "bad words" near a bee-hive. They also understand what is said to them, and are not slow to avenge any insults offered to them. It is a mediæval superstition that bees would not live in Ireland; and another tradition of the same period tells us that a sorcerer, if he should eat a queen bee, would be impervious to any torture which might be practiced upon him. A humble bee in the house denotes the approaching visit of a stranger. In the east of England, if a red-tailed bee enters the house, the stranger will be a man, if a white-tailed a woman. The entrance of a humble bee into a cottage is sometimes regarded as a sign of death. The value of a May swarm is referred to by Tusser, who says:

> "Take heed to thy bees that are ready to swarm.
> The loss thereof now is a crown's worth of harm."

In Warwickshire the first swarm of bees is simply called a swarm; the second one from the same hive is known as a cast; while the third is termed a spindle. In Hampshire it is a common saying that bees are idle or unfortunate at their work whenever there are wars. Borlase says that "the Cornish to this day invoke the spirit Browny when their bees swarm, and think that their crying

Browny, will prevent their returning into their former hive, and make them pitch and form a new colony." This use of the word "browny" may, however, be no invocation of a spirit, but simply an apostrophe addressed to the bees; just as in Buckinghamshire the death of the master of the house is announced to the hives in the words: "Little browny, little browny, your master's dead."

When bees stay about near the hive it is regarded, and rightly, as a sign of rain; this generally diffused notion is given by Virgil in the Georgics; and hence there is a proverb, "a bee was never caught in a shower." When many bees enter the hive, and none leave it, it is also a sign of rain. They were formerly used in medicine, as we learn from Purchas' Theatre of Political Flying Insects (1657) where we are told that "bees powdered cure the wind collick. Take 12 to 14 bees powdered in anything every morning," etc.

B. M., in *Gardeners' Chronicle.*

For the American Bee Journal.

Changing the Pasture of Bees.

The practice of moving bees for the purpose of obtaining a succession of forage, is not confined to Egypt. It was the practice in Italy in Pliny's time. He says: "As soon as the spring food for bees has failed in the valleys, near our towns, the hives are put into boats and carried up the river in the night, in search of better pasture. The bees got, and return to the boats, regularly. This is continued till the sinking of the boats to a certain depth shows that the hives are full enough, when they are carried back home and the honey taken from them."

This practice is still followed on the river Po, the same stream Pliny spoke of. Bees were also transported from Achaia to Attica, from Eubea to Scyrus, and from Sicily to Hybla, for the same purpose. In Scotland, bees are moved to localities where they can gather the honey of the *heather* when it is in bloom. In California, bees are sent up the Sacramento to get a succession of bloom, and in France hives are carried in carts from one section to another. Thirty to forty hives are placed on one wagon. If the weather is very hot the wagons move only in the night, and they move slowly, always choosing the smoothest roads. Sometimes, says the author of Natural History, ten or a dozen wagons thus loaded with hives, may be seen at once, in company.

Much has been said and written about how far bees will fly, and the number of trips they make, etc. Reaumer says if the total number of excursions be divided by total number of bees in each hive, the average would be five or six. But says another—half of the bees are employed at home, so that the average number of excursions will be ten or twelve; and if the average length of each excursion is one mile, each bee would fly twenty or twenty-four miles, daily. Kity says that the quantity of matter thus transported exceeds a hundred pounds. E. A.

For the American Bee Journal.

Answer to Mr. Bird.

I notice in your August number, a very unjust complaint from a Wm. W. Bird, in which he complains that he shipped a bbl. of honey to the Chicago Honey House, and we would not buy it, and asks who are the staunch men that he can ship honey to and get speedy returns. The facts in that case are these: Mr. B. wrote to the Chicago Honey House, saying he had a barrel of nice honey, and asked what I would give for it; and I answered that I was paying 15 cents for good—or that I would pay 15 cents, if good—I am not sure which, as my copy book is burned, but could not have made any other kind of an answer without knowing what the honey was. As soon as I examined the honey, I found it was very dark, vile stuff, made from fire-weed, such as I could not use at any price, and immediately wrote him, requesting him to direct me to turn it over to some other person, which he did. I turned over the honey to the party named, instead of using it and then forcing him to take its value and giving him cause to complain. I think Mr. Bird will not find any party "staunch" enough to suit his manner of doing business.

Mrs. S. E. Spaids.

The Bee in Southern California.

The home of the bee is in the mountains. There they seem to thrive, and ranging over the great surface common to all the choicest flowers, immense quantities of honey are gathered by the industrious workers. There is little difference between San Diego and Los Angelos, as far as the prosperity of the bee is concerned, but undoubtedly the above named places—especially the mountain regions—are not surpassed by any locality on the globe for successful bee culture. As the invalid comes here he cannot turn his attention to a lighter and more remunerative vocation. While the vast amount of honey is yearly going to waste, let us endeavour to furnish the means to collect this precious substance and turn to account what otherwise would be lost, and thus be numbered among the list of public benefactors. A. H. Arnold.

Size of Entrance Holes to Hives.

The honey-bee has, on each hind leg, a spoon-shaped cavity, studded around by stiff hairs, in which it packs the pollen and propolis—the hairs holding the pellets in place when clasped down on them. The leaf-cutter bee gathers and carries pollen also, but has no such baskets on its legs. It has a mass of stiff hairs on the under side of its tail, among which it fastens the load. Here we see the same end accomplished by different means, and it requires but little observation to see why. The leaf-cutter bee has to pass through a round tunnel or gallery but little larger than its body. If it should attempt to do so with the pollen mass on its thighs, as the honey-bee carries it, it could not do it without pulling off its load. Consequently it does not impede the passage.

The honey-bee ordinarily in its wild state inhabits hollow trees, the entrances to which are either through long slits or large holes, through which it has ample room to pass, without brushing off the pellets that stick out from its sides. A worker-bee can pass through a hole three-sixteenths of an inch high, but in passing through a round hole of that diameter the pollen would be dislodged. A drone requires a hole nearly one-quarter of an inch in diameter to pass through, so that in making entrance holes to hives it is evident they should be at least one-quarter of an inch high to allow drones, as well as queens and workers, to pass; but they should not be any higher, if we expect to exclude mice, humble bees, hornets and others enemies of the bee larger than they are.

Now, if the bee carry its load behind it as the leaf-cutter does, a round hole one-fourth of an inch in diameter would be large enough, but the load on each side sticks out from its sides, so that more room must be given laterally, even for the passage of a single bee at a time—but, as during active working, there is a constant flow of passing bees, it must be much wider. I find the width should be at least three inches.

But a single hole is not sufficient, even of that width, on account of their peculiar manner of ventilation, by which they are enabled to keep up a constant circulation of fresh air through the hive and regulate the temperature. There should be two such holes at least 4 or 5 inches apart, but on the same side of the hive. All other openings should be closed tight. If thus arranged, the left hand hole will be used for ventilation, and the other for the passage of most of the bees.

Query: Why do bees always use the left hand hole for ventilation? L. F.

For the American Bee Journal.

A New Idea Hive.

In the way of a novelty, we have a swarm of bees in the top of the First Presbyterian Church. Those familiar with Cincinnati will remember it as being surmounted with a hand, the index finger of pointing above, and in this metal hand is the hive, 285 feet high, being one of the highest steeples in the country. They were discovered by accident a few weeks ago. No one knows how long they have been there. They may be new comers; it may have been their home for years. It is so high that we have to use a glass in order to see them. We shall watch for them next spring with a good deal of curiosity. If bees can winter up there, and in a metal hive, too, it will be a wonder. I am giving my bees their fall examination now, preparatory to going into winter quarters. I have no doubt a good many bee-keepers throughout the country tried the mats last winter. It would be interesting to hear the experience of some of them; it is a grand success with us.

R. L. Curry.

Cost of Fencing in the United States.—Economy in Nebraska.

The heaviest item of expense in farming—the heaviest, considering the profit accruing, is probably that of fencing. In many cases fences cost more than the lands. The fences of the country are valued $1,800,000,000; and year by year, nearly $100,000,000 are expended to keep the fencing efficient. In Illinois not less than $2,000,000 have been invested in fencing; and not less than $175,000 are annually expended to keep these "metes and bounds" in repair. If stringent fencing laws had not been adopted in the State of Nebraska, the settlement of the country would have been much retarded. But a law adapted to the needs of the country has been wisely adopted. This law relieves the settler, at the time when he needs all his money for other improvements, for the necessity of investing a large sum in the construction of lumber fences. The law throws upon every owner of live-stock, the onus of keeping his stock from straying on the cultivated lands of his neighbors. The farmer need not build fences around his cultivated fields, for horses, cattle and sheep are "fenced out" by law. The stock when pastured have to be herded; but the cost of herding is not a tithe of what fencing would be. Fencing goes on, of course, in Nebraska; but it is live and not dead fences which are constructed. All through

the settled portions of the State hedge rows are appearing, and thriving. The hedge plants most used are the honey locust, the osage orange and the white willow. In some places long hedge-rows of peach trees, from which, frequently, good crops are gathered, may be seen; and the peach seems to make as good a fence as the white willow.—*Correspondent.*

For the American Bee Journal.

Bee-Keeping in General.

For years I have had a desire to engage in the bee business, and now have fully determined to do so, next spring, if I can find a suitable location.

I lately made a visit to Mr. Hosmer, who has a large apiary, only a little distance in the country. After some desultory conversation, we sallied out to the apiary, and sat down at the side, or rear of the hives to watch the "little busy bee," while Mr. Hosmer gave me much valuable instruction.

Mr. Hosmer evidently understands the honey bee, and how to make the most out of its labor. He took out the frames, one after another, from a number of hives, to show me the honey comb in all conditions, and answered my various questions. In this way we spent about three hours, and at the close of the interview I felt that I had learned something about bees, and how to keep them.

I should have said that Mr. Hosmer uses but a trifle of smoke, and his bees seem to understand it as well as he does. He holds the smoke on the wind side, and lets it strike across the top of the frames, after taking off the top cover, and the bees, which were on the top, would immediately go inside, and the rest would seem to be paying little or no attention to being handled about and set outside for a time, and then put back, and all the time keep at work.

Mr. Hosmer is not working his apiary so much for large quantities of honey, as for increasing his bees and raising Italian queens, the present season.

This has been a good season for bees in these parts. Mr. Durkey and Mr. Dolley, of this town, are among the foremost of bee-keepers, and appear to be meeting with success.

I saw by the August number of THE JOURNAL, that Mrs. M's little child got stung with bees. Oh, how I pitied that dear little thing, when I read about it, and to think how much it must have suffered, gives me an uneasy feeling even now; and then I thought how easy it would have been for that mother to have given her little one immediate relief, if she had only been prepared, and had known just what to do.

Now, although I don't give this recipe to the public, for the present, yet for the benefit of Mrs. M., I will send it to her, for it will do a great deal to disarm any one of that nervous fear, to know that they have something at hand that is effectual in killing the virus of the bee-sting.

If Mrs. W. M. will send to a Drug Store and obtain a vial filled with pure Spirits of Turpentine, (not Benzine, which is a cheap preparation, and sometimes sold for Spirits of Turpentine) and keep it ready for use, and in case of a sting, first see that the sting is all removed; then drop on the fluid as fast as it is absorbed and taken into the circulation for a short time, and then a palet of cotton may be laid on to the place and kept well supplied with the remedy, and in ten or fifteen minutes the pain will be gone. I have found nothing equal to this, and in no case can it do any harm.

Minneapolis, Minn. R. D. BUCHANAN.

For the American Bee Journal.

Handling and Quieting Bees.

Many persons say to me, and I've no doubt others who have read my articles say, you speak about bees as if they did not sting, and oftimes the results are bad. Of course bees will sting, but if properly handled, will not sting at all, though some persons say that if they go within one hundred feet of a hive they will be stung. When they say that, I feel like telling them that their habits are bad. Bees dislike bad odors, especially whisky and tobacco, and when such persons visit my apiary, I first give them a veil to put on, and warn them to keep their hands in their pockets, for I know they will be stung. The most successful bee-keepers are men of good habits, for they can go among their bees at all times without fear of stings. Ladies are very successful bee-keepers, for they have no bad habits, except a few who will soil their mouths with filthy snuff—a habit more repulsive than tobacco-chewing in men—as they are the purer sex, we expect to see all things pure about them.

Bees, before swarming, fill themselves with honey to carry to their new homes, for the purpose of making comb, and while thus filling, they are very good natured, and seldom sting without they are hurt. We can take them down from their swarming place, turn them over, and hunt for the queen, or perform any operation we wish. When thus filled with honey or syrup, they are quiet, and this is the whole secret of the charms, secrets, &c., of bee-charmers.

Many years ago, a celebrated bee-

charmer in London, exhibited his prowess before the king—carrying bees in his hat, breast, and having them to swarm on his hand and arms; bees flying away and returning to his hand. The secret was this: he knew the bees would always stay with the queen; he had her caged, and wherever he placed her the bees would remain. He fed them on sugar syrup. He was considered a charmed person. He died keeping his secret, though by discoveries since his charms have been found, as the same can be done at the present day, and has been done at some of the county fairs, and seems wonderful to the unknowing ones. The whole art of taming bees is in the following:

"A honey bee, filled with liquid sweets, will not sting of its own accord. Bees, when frightened, will generally fill themselves with honey, and if given liquid sweets will invariably accept them. Bees may be frightened thus: by blowing upon them the smoke of buffalo chips, (dried cow manure), punk, tobacco, or cotton rags. By confining them to the hive and rapping the sides of it lightly with a small stick; at first the bees will try to get out, but finding that impossible, (first closing the entrance), they will rush to their stores and fill themselves with honey." (Hamlin), And when this is done, you can do anything with them. Before opening a hive, blow smoke in at the entrance, to alarm them, and in a few minutes they are as good natured as a man after a good dinner. During Spring and summer, bees are less iritable than in the fall. If they are rich in stores they are harder to control; and also on cloudy days. When handling bees, always select a clear, sunshiny day; always use care; make no quick motions; and if the bees rush out on you, stand still; don't fight them, as they are very pugilistic, and will always strike back. Beginners, I would advise to have a veil made of black bobinet, fastened around the hat and on the shoulders. The rim of the hat keeps it away from the face. The black bobinet, unlike the white, does not tire the eyes, and interferes but little with the sight. With the above hints, no one need fear to perform any of the operations I have already spoken of. A. J. Murray.

Michigan Bee-Keepers' Association.

The seventh annual session of this Association will be held in Kalamazoo, Mich., on the 16th and 17th of December, 1874. This Association has long been favorably known for the practical character of its proceedings; and arrangements are being perfected which will render the coming session fully equal to its predecessors. Kalamazoo is one of the finest villages in the U. S.—is easily accessible by rail from all portions of the country, while ample arrangements have been made for the free entertainment of all apiculturists in attendance from abroad.

We trust that every Michigan bee-keeper, who takes an interest in improved bee culture, will be present, and endeavor to make the coming session mutually interesting and instructive; while we extend a hearty, cordial invitation to those residing in adjoining States to meet with us.

Herbert A. Burch, Sec. *pro tem.*
South Haven, Mich.

Bees and Orchard Houses.

A Scottish gardener of Berwickshire, Scotland, practices this novel but entirely practical method of securing a good set of peaches in the orchard house under his control. The method of course may be applied to the fructification of any fruit under artificial cultivation by means of glass:—"Into his early house, as soon as the flower-buds begin to open he introduces a "skep" of bees, and although they are in a semi-dormant state, the heat of the house soon brings them into activity, and in a very short time they are all over the house, and the result is generally a first-rate set. In looking over the trees a short time ago, it would be difficult to point out one that had missed. In giving air, care must be taken to have the opening covered with netting, to prevent the escape of the bees."

For the American Bee Journal.

Reports from Northern Kentucky.

The weather has been very dry and and hot the past summer in this section. The honey harvest closed July 4th, since that date bees have done very little at honey gathering, and consequently, but little at brood raising. From July 4th to 20th no eggs were laid in my hives, a few from July 20th till Aug. 10th when egg laying stopped again, was resumed for a few days early in September but the weather continued so dry that very few eggs were to be found Sept. 20th. Honey was very abundant in May and June and of fine quality. Dr. Martin extracted from two colonies, black bees, 380 lbs. Mr. Culbertson from 10 colonies mostly hybrids in spring, got 850 lbs. extracted, 100 lbs. box honey and 4 swarms. Pelham & Cobb transferred 10 colonies in spring, 700 lbs. and doubled the number of colonies. In my own apiary we started with 16 colonies, blacks, extracted 1350 lbs., took 75 lbs. frame honey,

bought 13 colonies in frame hives and one box hive colony, July 20th, and now have 50 colonies in the yard.

The 14 colonies purchased July 20th were, except two, Italians and hybrids. During the summer while the blacks were doing almost nothing, the Italians and hybrids filled up with honey and brood, and, Aug. 12th or 15th, began to swarm. One swarm left the hive, clustered on a tree for a few minutes and left for parts unknown all before nine o'clock A. M. They were first cross hybrids.

Having tried a number of bee-sting remedies with little or no effect, I at last found that tobacco soaked in whisky would, if applied immediately, stop the pain in 20 seconds and in most cases prevent swelling. A half-ounce vial half full of tobacco and then filled up with whisky, is handy to carry in the pocket during the working season. In my case the pain and swelling are worse just in proportion to the length of time elapsing before the remedy is applied. My neighbor Mr. Cobb, on the other hand, can take 50 or 100 stings and enjoy the fun, feeling no ill effects whatever.

Maysville, Ky. WM. C. PELHAM.

For the American Bee Journal.

Over-stocking.

A few more weeks will conclude my 84th year; and my efforts, for my own interests or the interests of others, soon must cease. I wish to state a few facts connected with and relating to the subject heading this article.

1. There is a very great difference in the amount of honey produced in different fields in the different sections of our country and in the world, varying from the barren waste to its most productive fields.

2. Every field from the most barren to the most productive is limited in amount of its productions.

3. There is a great difference in the seasons for the production of honey, the same field producing double or treble the amount one season that it will in another.

4. In swarming hives, the increase will be from one to four new colonies per annum.

5. If we commence with one colony, and have one new swarm from each colony per annum, the first year we have 2 colonies, 1 old and 1 new; the 2nd year 4; 3rd year 8; 4th year 16; and so on to the 10th year 1,224.

6. If we commence with one and have two new swarms from each old one annually, the increase will be 3, 9, 27, 81, and in ten years our stock will amount to 59,149 colonies.

7. If we have 3 new swarms from each stock the increase will be 4, 16, 64, 256, 1024, and in ten years the amount is 1,048,576.

8. At four new swarms, as allowed sometimes to be given, both by Quinby and Langstroth, it will be annually, 5, 25, 125, 625, and in ten years will amount to 9,765,625 colonies of bees.

9. Somewhere along in these years the figures will get a little above the capacity of the field; the strongest swarms will give some considerable surplus. The weaker ones will, some of them, be robbed in the struggle for life. Some of them will be too weak to resist the moth, and will succumb; but with feeding and nursing they almost all get through pretty well.

10. Another spring has a fine opening, an abundant flora, the colonies double their numbers they have increased to double the number, that but just squeezed through the preceeding winter, and now they die half, two-thirds, three-fourths, and sometimes all of them. Was the field overstocked? Oh no! they say.

11. Perhaps some of the bees straying over, daubed up and besmeared the comb. Oh it was the dysentery. Or they might have reached the sides of the hive and frozen to death leaving a little honey at the edges of the comb, and frozen there, leaving that evidence against overstocking.

12. I have never occupied a field where 30 colonies were safe to pass through the winter without starvation. Twice in my short experience (having commenced my business at three score years of age) I have had almost my whole apiary perish from starvation.

13. But why should we talk about starvation? An apiary that will give half to two-thirds of the honey produced in the field to the keeper; should not be reckoned unsatisfactory.

14. Neither should a bee-keeper be satisfied with a hive that cannot be made strictly a swarming hive at the pleasure of the keeper, or changed to a hive capable of receiving surplus honey boxes in most intimate connection with the breeding apartment, of the capacity of 100 lbs., thus giving such room as would form the colony the disposition to swarm.

14. It is not the principle object to procure bees but honey. We should think that the increase at the rate of doubling every year, one new colony from every old one, would give in ten years, in each town six miles square, 1224 hives; and in 15 years 39,168 hives. But instead of reaching this number, so many would perish from starvation that the business

would be relinquished by almost, if not quite, all of the citizens.

15. Instead of this place one or two colonies in non-swarming hives on each hundred acre lot and each might furnish one or two hundred pounds from each hundred acres. This result might be proved 15 or 20 years with no trouble but to place the surplus boxes in order in their season, and remove them when filled. So much difference may be proved by experiment on a larger or smaller scale.

Woodstock, Vt. JASPER HAZEN.

For the American Bee Journal.

Bee Prospects.

In looking over our bee journals we often see reports that read something like this: "We have commenced scientific bee-keeping and are very successful. We are trying to induce our neighbors to use the movable frame hive and to do away with the sulphur match, etc. But they say we don't want any of your new fangled things, they are humbugs."

Now, brother bee-keepers, if this is the case I believe it to be your fault and not that of your neighbors. Although I am a novice, my experience has been different. I have kept bees for many years but never made it profitable until the last three years. I saved six swarms from the great bee disaster of the winter of 1872. Transferred them in the spring into the Pallace hive (which has the Langstroth frame with the Johnson sectional honey box). During that season, increased to 13 by artificial swarming, sold $120 worth of cap honey. In the spring of 1873 I commenced with 13 swarms (lost three during the winter on account of their not being strong enough in the fall) increased to 26 swarms and sold $300 worth of box honey. Started this spring with 26 swarms, increased by artificial swarming to 61, have taken off 160 boxes of honey which weigh 12 lbs. to the box, or 1,920 lbs., which we sell at 24 cents ℔. Have extracted 500 lbs. and sold it at 18 cents ℔. Sales of honey amount to $550.-80. Considering increase of stock, 35 swarms at $6.℔ swarm amounts to $204. Total amount for apiary $754.-80. Paid for material for hives and honey boxes $72.50, leaving a profit of $652.30.

Now, to return to my subject. My neighbors have been watching my progress with an unflinching eye, and the moment you prove to them that there are dollars and cents connected with the business, that moment they are ready to take hold.

The result is that over 25 of my neighbors are using the same kind of hive that I do, and if you should visit them in the summer, you would see them armed with a bee hat and busily at work with the little harvesters. And almost daily some one is visiting my apiary with observing eyes and attentive ears, to learn what they can. I am always glad to impart knowledge such as I have, for I like to do all the good I can. I believe that the era of bee-keeping has just begun, and the time is not far hence when tons of honey will be sold where only pounds are sold now. I think our locality here is as good as anywhere. We have early in the spring plenty of willow, elm, soft maple and many other spring flowers. Then comes an abundance of fruit blossom, which lasts until the white clover begins to appear. The white wood (liriolendron tulipifera) comes on about this time, which our bees do excellent on. We have basswood or linden in abundance. A good deal of buckwheat is raised. In the fall we have a great crop of boneset, we have a good many species but the most common and most profitable to bee-keepers is the eupatorium perfoliatum in our locality it yields a quantity next to linden. The last bloom that we have in the fall is the golden rod, and some other plants belonging to the compositæ order. But no matter how good a locality we have, I believe there is yet something for bee-keepers to do to aid nature.

I believe we should make the honey plant a study, and those of us who have the time and means should experiment and find out which are the best and most profitable for the bee-keeper and farmer.

I think by the cultivation of such plants we can get a far better yield of honey than with natural advantages alone. I should like to hear more through the JOURNAL about the growot honey plants.

It is through the JOURNAL that we must become posted and up with the times. W. L. PORTER.

West Ogden, Mich.

The sting of a bee is a barbed spear, projected by the insect in defence from real or supposed danger.

For the American Bee Journal.

A Kentucky Apiary.

Wishing to keep my bee yard as small as possible, I have studied considerably how best to arrange the hives so as not to be too crowded and not spread them all over the place. For two years I have had nearly all of my hives in rows running east and west, nine in a row, as follows: Two joists or timbers 20 ft. long, 10 or 12 in. high, are placed on the ground, 18 in. apart, my Langstroth hives rest across these, facing north and south alternately; under the rear end of each hive a strip 2x2x14 in. is nailed to the joist that tilts the hive about enough to suit me. At one end of the row a hive is placed fronting east. Over this row is a roof of rough boards, about 6 ft. wide, 22 ft. long, sloping down towards the south, and just high enough for me to work under. The roof is nailed to scantling which rest in forked posts set in the ground. It is light enough for two men to carry, and when the hives are set out of the cellar in March the roof is set down on the ground at the west end of the row, to break off the cold winds and let the sun shine on the hives, until May. When placed on the posts again it is secured by wire loops from danger of being moved by the wind.

In opening a hive I stand behind it, set the cover on a hive at one side, and turn the honey board up edgewise against an adjoining hive with the lower edge of it on the side of the hive I am working. In a very short time the bees that may be on the honey board run down into the hive, so they are not in the way when the honey board is to be replaced. If they are black bees they rush back into the hive in a great hurry.

The rows of hives are placed about 20 ft. apart, or may be only 16 ft; taking care, if they are near a fence, to leave a passage near the fence. I would prefer my honey room in the centre of the bee yard if there was good shade. It is now at one side.

I have experimented considerably in making bee-brooms or brushes, but have found nothing to equal an eagle quill-feather with the barbs trimmed off about half an inch from the shaft. My uncapping knife I want to be very thin and hard tempered, with the handle parallel to the blade, and not an angle to it as most of them are made. There are several little conveniences in use that I will describe for the benefit of beginners. A pan, to hold caps and trimmings when extracting; made of tin, 16x30 in. and 6 in. deep. Two inches above the bottom is a movable false bottom of galvanized wire cloth, and in one corner at the bottom is a hole with a thimble soldered in, and cork to fit, so the honey that drains from trimmings can be drawn off. Across the top of the pan rests a square stick, supported by a block at each end, with the edge next to you, rounded off for the comb frame to rest upon, and edge from you, sharp to scrape the honey knife upon.

A box to carry combs in is indispensible. Mine is made very light and honey tight; it holds six combs, is 9½ in. wide inside, with upright strips tacked in each end to hold combs apart, and handles on each end to carry by.

I go to work extracting as follows: One man works the slinger and uncaps, one carries combs and handles hives. One comb box is set down by the table at slinger, with five empty combs in another box, I go to a hive, open it, remove the comb, the frame slides down in the space in my box like a window sash in a frame, put an empty comb in the hive and take another for the box. Thus I take five combs, spread a cloth over the hive, carry the combs to the extractor, take up the empty box and get the other five combs from the hive; by the time I carry them to the extractor the first five are empty, so they are returned immediately to the hive and it is closed up.

Working in this manner two men will extract from 300 to 500 combs in in a day. W. C. P.

A Frenchman has discovered a method of taming and removing bees, and securing honey by tapping on the sides and top of the hives. We remember trying it in our youthful years, before we had heard of the Frenchman. We tapped on a hive belonging to an old farmer one night, and the bees came out first-rate, but we didn't care to stay to remove the honey somehow. It seemed to us almost any place in the world would be desirable when compared to the vicinity of that hive. In this experiment, as in the one conducted by the Frenchman, the bees possessed all their usual activity and vigor. So did we.—*Utica Herald.*

Bee-Farming in Broome County, N. Y.

A Binghampton *Times* reporter has been investigating the manufacture of honey as carried on in the vicinity of Binghampton. He reports that:

The principle apiaries in Broome County are located, one at or near Chenango Bridge, some 5½ miles from Binghampton, up the Chenango river, west side, and belonging to Mr. J. L. Schofield. The other two belong to Messrs. J. P. Moore and L. Beard, the former living about a mile below Binghamptom, south side of the Susquehanna, the latter still half a mile lower down, on the same side of the river. They are all practical farmers. They are about the only men in Broome County who may be called scientific bee-farmers, or who are eminently successful in and make the business profitable.

He visited Mr. Moore first, and found him among his favorites, arrayed as he would be for any farm work, face, hands, and neck bare. He was drawing some large cards of honey from the centre of a hive, a hundred bees darting about his head, and with a large feather, was as cooly brushing the crawling insects from each card as though they had been so many wingless ants. A high picket fence surrounds his bee yard, inside of which are 24 full stocks of bees and 13 nuclei. The yard is well shaded with young apple and pear trees, and grape-vines running over trellises, from which hang in profusion rich cluster of grapes.

Twenty of his stocks are in a bee house, built about a year ago expressly for the keeping of bees. Entering this house Mr. Moore lifted the covers from several of the hives, exposing to view the many boxes and cards of honey already filled and partially filled, over which and through which the bees were crawling in countless black legions. The most of Mr. Moore's bees are the Italians, a few hybrids being still left among his colonies. The house is 8x12½ ft. inside, walls double and filled with sawdust. Under it is a cellar 5 ft. deep. A system of ventilation is so arranged that the temperature of the house in summer may be kept as low as desired, while the sawdust walls keep it sufficiently warm in winter, so that the bees are never moved from the house. The hives used are the Langstroth, with a slight modification. These hives will hold 32 three pound boxes next to the brood comb and 12 boxes on the sides. From one of the hives he has taken 50 boxes this season. The 50 boxes will weigh 165 lbs. Another hive has 50 boxes nearly full. He had a stock last season from which he took 175 lbs. of honey. He states that during the honey season—which in clover lasts about 30 days and in buckwheat about 25—a strong stock will store from 10 to 15 lbs. of honey per day. He keeps the temperature of his house, when the bees are at work, at from 75 to 80 degrees. When they are not working it stands at about 70. During the winter it is kept from 35 to 40, with an occasional rise to 60.

During the whole visit Mr. Moore kept up a running explanation of his management of bees and their habits. His first effort is to prevent swarming as much as possible, by which he keeps his bees at work constantly storing honey during the honey season, instead of devoting a part of this valuable time to swarming. This he does by giving them plenty of room to store honey, and keeping them at a comfortable temperature by shading or otherwise. He succeeds in preventing from two-thirds to three-fourths of his stock that are out of doors from swarming, and all that are in the house.

A stock that does not swarm will make twice (and sometimes more) as much honey as one that does swarm, hence the importance of preventing swarming.

Mr. Moore started last spring with 23 colonies of bees, but one of which has swarmed, one of the out door stands. From these he has already taken 1,500 lbs. of box honey, and will take at least 500 lbs. more. Besides, he has extracted nearly 600 lbs., which gives him a little more than 100 lbs. of honey per stand. This is not as well as he did last season. He last year averaged from 15 stocks about 135 lbs. He has now 12 nuclei swarms, with which he is raising queens. These will be put together before winter, and reduce to 5 or 6 regular stocks for wintering.

After looking over the bees of this yard Mr. Moore accompanied the reporter to the residence of Mr. Beard, half a mile further down the river.

Mr. Beard started with 22 stocks in the spring, and will winter 33 or 34 stocks. His bees are all Italians but one stand, which are hybrids. They are in the Langstroth hive, and are all kept out on the ground, but well shaded with apple trees. He manages his bees very much the same as Mr. Moore's are managed, and his product of honey will vary but little from the product of Mr. Moore's yard. He has one stand that has made this season about 160 lbs. of surplus honey. His surplus honey is all stored in boxes, with four glass sides, and weighing 3½ lbs. each.

Mr. Schofield's yard was visited the next day. He started in the spring with

35 stocks, all Italian. He has now 44 full stocks, with 54 nuclei. They are nearly all in the Langstroth hive. They are summered out of doors, on the ground, the hives standing some eight or ten feet apart, and well shaded by apple trees. Through the winter they are kept in the cellar under the residence. They are put in the cellar in December, and removed as soon in the spring as the weather will permit, which last spring was in March. The surplus honey is all stored in boxes of 3½ lbs. weight, except four stands, in which frames are used instead. Two frames hold just the same amount of honey as one box. His 31 stands in which boxes are used have averaged him 91 lbs. of honey the present season. But one of the four stands in which frames are used has had a fair chance to test their merits. Five cases, each containing from 45 to 48 lbs. of honey have been taken from this stand the present season, and another is already partially filled, and will be quite filled if the present weather holds a week yet. Mr. Schofield puts the weight of these five cases of honey at 225 lbs., which is their minimum weight. He thinks that with these frames his yard would have averaged four cases, or 180 lbs. of honey each. One other of these four stands of frames has filled four cases. He has a Bay State hive, a late patent of Henry Ally, near Boston, in which he put a new swarm the 2nd of July last. This stock has filled the body of the hive, holding about 35 or 40 lbs., and has also filled 24 boxes, weighing 3½ lbs. each, which amounts to about 120 lbs. of honey.

After visiting this yard, Mr. Schofield accompanied the reporter to Port Crane, where is a yard owned by Mr. D. D. Winn, but which is managed by Mr. Schofield. This yard was mostly transferred last spring to their present quarters in the Langstroth hive. He uses the frames exclusively. He had 8 stocks in the spring, which have increased by swarming to 10. The yard has averaged fully 100 lbs. per stock. He has one stock which has filled four cases, or 180 lbs., and has partly filled another.

These bee-keepers all send their honey to New York City, where they realize an average of 25 to 30 cents per lb. Their extracted honey is all fed back to the bees, by whom it is converted into the best of box honey. They are men who read bee journals, in which they are well posted, and who are thoroughly alive to the importance of their occupation. From the results of these apiaries it will be evident to all, that bee-farming is a growing industry of Broome County.

For the American Bee Journal.

Test of Italian Purity.

ANSWER TO MR. HESTER.

In the last number of the AMERICAN BEE JOURNAL, Mr. M. C. Hester asks:—Is there any fixed and certain test of Italian purity? If so what is it?

I answer: yes! All the truly pure Italian bees have three yellow bands. During the five weeks that I have spent in Italy, I have visited many hundred apiaries, I have seen several thousand colonies and I was unable to detect one single bee with but two yellow rings. It is true that I have seen, here and there, a few bees seeming black; but it is not a proof of impurity, for as far as I could judge, these bees were young, full of feces, and that matter could be formed of dark or even black pollen; for there exists in Italy some plants, such as the red poppy, very abundant in the field, whose pollen is quite black.

Every bee-keeper knows that the three first rings of the Italian bee are transparent. Suppose that the abdomen contains a black matter, her wings will be as black as those of a black bee, yet this dark colored worker can become a very bright yellow bee when full of light colored honey. I have seen, sometimes, in my apiary among my best workers, some young bees darker than their sisters, but afterwards it was impossible to detect these bees among the regular workers, their dark color having been replaced by a brighter yellow.

In the fall, bees eat dark honey, the result is that they are darker than when they find plenty of spring honey in the fields.

It is therefore but natural to find some bees seemingly black among thousands of well marked workers, and I contend that such exceptions are not a mark of impurity. Yet, if these black bees were very abundant in the hives, and above all if they were visible among the regular workers such a colony could be considered impure; for it is not so with the bees in Italy, the number of these seemingly black bees in a hive is very small when compared with the entire population of the colony; may be one or two to every thousand, yet I thought that it was my duty to say exactly what I have seen, to prevent complaints from those who could mark such accidents in their hives.

Mr. Hester, adds that he has received an imported queen, *that was brought over by me last year*, and whose worker progeny were two and three banded. I did not go to Italy last year; further more, I did not sell a single imported queen last year;* my importation having given me

only two living queens, which I have preserved for my own apiary. Besides I have never sold any queens to Mr. Hester. If he has received this queen from another party, she was not of my importation, and if she was not a bogus imported queen, she came from Tyrol, or from Germany, or elsewhere, not from Italy; for, from the Rhetian Alps to the point of the peninsula it is impossible to find a single bee with but two yellow rings, when full of honey. These yellow bands vary somewhat in width according to the districts, but I am sure, and I guarantee that, all the Italian bees that I have imported and will import, will breed all their workers with three yellow rings around the abdomen.

The queens, daughter of the imported queens and drones, will vary; some being quite dark, but the workers will be all alike in every hive. I vouch for it, having seen the bees in their native land, and having, for seven years, tested in my apiary, queens coming from more than ten different breeders of Italy.

Hamilton, Ill. CH. DADANT.

* I am mistaken, I sold an imported queen to Mr. Hollett, this queen was from the previous year's importation. Last year having received but two queens alive out of 30. I have refunded the money to many bee-keepers, among whom I can name M. M. Root, Benedict, Argo, W. Cary, Salisbury, etc.

For the American Bee Journal.

The Superiority of the Italian Bee and Safe Wintering.

I have kept bees for thirty years, but found I knew but little about them until I took the BEE JOURNAL in 1870; at that time I had five hives. In 1871 I bought two queens of N. C. Mitchell. In thirty days I had two hives of nice three-banded bees, but lost them the next winter. In 1872 I bought a queen of Baldwin & Bros. of Sandusky; from her I have some thirty hives full blood and ten half breeds. In 1871 and '72 I lost twenty-seven hives with disease I have now fifty-five hives all in first rate condition. In 1871 I bought of N. C. Mitchell a Rough and Ready hive and the right to make. Last fall I had twenty three light and heavy. I prepared them and put them away for winter. All came out this spring in good order. For experiment in Aug. 1873, I divided two Italian hives and made six hives of them, three racks in each. This spring one of them filled their hive and swarmed on the 1st of July. In three weeks filled their hive and boxes, and swarmed the 25th of Aug. and now have their hive full.

Last fall I prepared twenty-three hives. I took off the honey board and covered it with a piece of carpet, then made a box five inches high, the size of the top of the hive; nailed on carpet for bottom, filled with cut straw or hay, and put on the hive. That keeps the bees warm, as their breath goes through both carpets in the straw. I have a room made in my barn 12x20 feet with double doors and packed partitions, so that it is above 35 degrees through the winter. I went every week or two and lifted up the box of cut straw, and found it warm between the two carpets, although some times wet on top of the straw with their breath. In this manner prepared there will be no bees lost, and they dont eat over half as much as out in the cold. I have got a large amount of honey this summer and a very large increase in Italians. D. A. SHERMAN.

A Bee Parasite.

I hasten to send a little insect, apparently a red spider, which I took off one of my queen bees. She had been dethroned to make room for a Ligurian, just sent me, and was released in a queenless hive into which I had introduced her on Saturday last. I opened the hive to find out whether she was alive and well, and found her with this little creature on her back. For a long time, I was unable to remove him, as he was quite indifferent to the pokes I administered with a little piece of grass, and hid himself under her wings; so I was obliged at last to capture her majesty, and in the safe retreat of my study remove this too faithful attendant with a pair of twezers. I found only two grubs in the royal cells. Probably the presence of the spider and the cold weather had interfered with the breeding.—*Bligh.*

[The insect was sent to an eminent authority connected with the British Museum, who writes: The insect sent is the bee louse of Europe, and in some parts of the Continent is not uncommon; in fact it is a nuisance, as many as 50 to 100 being sometimes on a single bee in Italy, etc. It is a wingless dipteron, allied to the forest fly, "Hippobosca;" it is named *Branla cæca;* the young are said to be produced in the pupa state; it lives by sucking the bees. No doubt more are to be found in the hive whence the specimen sent was obtained; if so, a specimen or two would be acceptable for the Museum collection. It is not frequently found in England, except in imported swarms of the Italian bee.—*British Bee Journal.*

Foreign Department.

CONDUCTED BY C. H. DADANT.

L'APICOLTORE.

L'Apicoltore is an Italian periodical published monthly by the Central Association of Milan, for the encouragement of bee-culture.

It is edited by Count Miscounti di Salicето with an able corps of contributors. The September number is now before us. It is as usual replete with good articles on bee-topics.

On the first page we find a document that may be worth reading; it is a letter from the well known revolutionary General Garibaldi. We quote:

The President of the Central Association having heard that General Garibaldi is interested in bee-culture, had sent him a copy of the journal *L'Apicoltore*. In answer he has received the following letter which he publishes with pleasure.

Caro Signor Presidente:—Your journal *L'Apicoltore* is a precious treat for me. Bee-culture is now my favorite business.

I am gratefully yours,

G. GARIBALDI.

Caprera, Aug. 17th, '74.

The second article in this paper is by F. Clerici. It is one of a series of articles describing and classifying the honey yielding flowers of Italy. Mr. Clerici has so far classified and described in the *Apicoltore*, 185 different honey-yielding plants, with occasional engravings. This same writer is the engraver of the 30 anatomical chromos describing the external and internal organs of the bee, queen and drone, which had been drawn from microscopical studies by Count G. Barto.

The third article is a letter from P. Grassi on the question of foul brood. In this article we see a description and engraving of the insect (Phora incrassate) that feeds on the diseased larva. It is there represented in the three stages, larva, chrisalis and perfect insect. There is also an engraving of a fungus engendered on a foul brood (melittis melittophorus.)

We see a little further an article on honey employed in the manufacture of wine; then a question and answer department. But the best department of this paper is undoubtedly the department of "new publications of bee-culture" under the direction of Dr. Dubini. In this department, we find every month, translations from bee-papers in all parts of the world, Germany, Switzerland, England, France and America. There the Italian bee-keeper can find all the new ideas or new discoveries abroad, faithfully reported. Dr. Dubini searched everywhere and nothing escapes his search. And many of our American writers have been published abroad unawares. The names of Gallup, Novice, Langstroth, Doolittle, Adair, Mrs. Tupper and many others, are seen by the side of the names of Berlepsch, Dzierzon, Hurschka, Leuckart, Mona, and even Hamet.

In the present number we find translations for the *National Agriculturist and Bee Journal* from the *Apiculteur* of Paris, from the *British Bee Journal*, from the *Rucher du Sud Quest*, and from the *Bienenzeitung*.

L'Apicoltore is doing a good work, it is stepping towards progress. Long may it live!

A Proposition.

I see readers of the AMERICAN BEE JOURNAL have asked more than once for some plan to keep syrup from granulating, honey from candying, or either from souring. I bought a receipt for just such a purpose and can dispose of it as I please as there is no patent for it; and as I paid $30 for it in full, can do as I think fit. Now I am willing to do all I can for bee-keepers (as far as my means will allow) and if any one will raise money and send me a fine imported Italian queen, of this season's importation, I will give this receipt to be published in the AMERICAN BEE JOURNAL. The queen to be sent in a nucleus hive, well stocked with bees and honey for to do them two weeks. This receipt I can vouch for, for I have given it a thorough trial and never failed. Should any of the bee-keepers send the queen (a fine one only will be received) I will make it public, and it is worth $5 to any man who keeps honey, as it adds greatly to its sale. DR. W. B. RUSH.

Simpson's Store, Pa.

Granulated Honey.

The Jews of Moldavia and the Ukraine, prepare from honey a sort of sugar which is solid and as white as snow, which they send to the distilleries at Dantzic. They expose the honey to frost for three weeks, where sun nor snow can reach it, and in a vessel which is a bad conductor of caloric, by which process the honey becomes clear and hard, like sugar.—*Bevan.*

A Request.

Will the contributors to the AMERICAN BEE JOURNAL please mention what patent hive they use, and oblige,

S. C. EDGEFIELD.

Notes AND Queries

You speak of using the straw mat in wintering bees. I would like to know how they are made. Perhaps you have answered this question but I am a new subscriber and have not had the benefit of it. Will it be best to remove one frame from the centre of my hive or extract the honey and return it? I have never used the extractor; this is the first season I have had bees in the movable frames. I think there is too much honey in my hives. The frames are all full of honey, with but little brood. I have the Langstroth ten-frame hive. R. A. CALVIN.

Send to Albert N. Draper, or C. F. Muth of Cincinnati, for a mat as a sample. Both advertise them. We use quilts instead of mats, but dare say the latter are best. We fear your hives are too full of honey. If so—remove one or more frames from the centre of each, to give room; moving all the other frames a little further apart. Put on quilts or mats at once.

It would have been better to extract the honey, and return the combs, but it is late now to do this, unless you keep the combs twenty-four hours in a very warm place before using the extractor.

DEAR EDITOR:—Ought newly formed colonies that have gathered no honey, on account of the drouth, to be fed now, or wait until later? Does feeding stimulate breeding? Do you think bees can gather enough honey from this time to keep them through the winter? What do you think is the best bee food?

J. G. STREET.

Syrup made of sugar and water, is the best bee food. The earlier in the season that bees can be fed the better, after frost kills the blossoms. If they have insufficient stores in this month (November) they must be fed on very warm days or taken into a warm room to feed.

DEAR EDITOR:—J. Davis tells the readers of the JOURNAL on page 184, Aug. No., how to introduce virgin queens and make new colonies, but he does not tell them how to construct the queen nursery he uses; will some of our veteran bee-keepers give the younger ones a little light on the subject, if the article is patented or not, if patented where can it be had. Please answer in the JOURNAL.

Metamora, O. N. B. SEBRING.

There are several queen nurseries patented—one of them by Mr. Davis. We have tried several of them with very indifferent success. If you apply to some one who advertises them you may get the information that will aid you in understanding the principles on which they are made.

DEAR EDITOR:—I am a beginner in bee-culture. Bought 4 swarms of black bees last spring. Have 12 young swarms from them in movable hives. I have Quinby's and Langstroth's bee books. Have not had any trouble in summer management by following their directions. Will you please give the best mode of burying bees, in the JOURNAL. Is there any better way than to put them in clamps as Mr. Langstroth describes in his book. If I can winter them I think I am all right. Most of the bee-keepers about here trust to luck and chance. I asked one man if he wanted to sell his bees. He said, no. Asked him if he took any bee-paper. He replied, no. Asked if he would like to subscribe to one. No, was the reply; and that is about the way with most of of them. They will not trouble to inform themselves nor sell their bees. It has been a good season for breeding bees here, but there has not been a large amount of surplus honey made, as there was a whole week of windy, rainy weather during the linn harvest.

Randallsville, N. Y. E. D. CLARK.

There is no better way to bury bees, than to put them in clamps as Langstroth describes. Some report good success in that way. We have not sufficient experience to warrant us in recommending it.

DEAR EDITOR:—I have two swarms of bees that are full of drones, both large and small, the small ones are regular dwarfs. I suppose they were raised in worker cells. There are plenty of worker bees, old and young, in both colonies. My opinion is that they have a fertile queen and fertile workers also. They are in hives that I cannot take the frames out to find out the cause. Please gives me a full explanation, and oblige,

CHARLES E. SWEETSER.

It is probable that there is a quantity of drone comb in your hives, and honey

being abundant this year, much of it has been filled with drone brood. When the season is poor, the bees are slow in rearing drones.

The fact that there are young worker bees in the hive, as you assert, proves that they have a fertile queen, and we have never heard of an instance where a fertile worker, much less a drone-laying queen was tolerated in a hive with a perfect queen.

If you could examine the hives, you would find, we think, that in the centre of them there is much drone comb. The small size of some (the drones) indicates, we think, that part of the brood was fed too little—not more than enough for workers. This is frequently the case where too much drone comb in the centre of the hive is found. We don't know but we guess that the bees get tired of feeding many drones so bountifully.

If any one can explain our correspondent's trouble any better than this, let us hear from him. Did any one ever know of a fertile worker in a hive that contained a fertile queen?

DEAR EDITORS:—On June 6th, I took off a box of honey with brood enough in it to fill a Langstroth frame. On September 8th, I put this in a hive and it all hatched out alive, having laid in the cellar three months and two days. Have you among your correspondence any case similar? Such authority as Mitchell and Zimmerman, think it impossible.

NAPOLEON, O. G. M. LE VAN.

We should also pronounce it impossible, unless you are certain there is no mistake. Did you see the young bees hatching? Is it not possible that the bees removed this brood, it being dead?

Was the brood left in the cellar without any bees about it?

We would be glad of all the particulars of a case, which seems to us at variance with all natural laws. What would be thought if we should assert that we have taken eggs nearly ready to be hatched from under a hen, put them in the cellar for months, and then put them again under a hen and then hatch. The cases are not parallel, because insect life is not like that of the fowl, but they are similar, and will serve as a comparison. Has any reader of the JOURNAL seen instances, where the hatching of brood has been suspended in this way?

DEAR EDITOR:—Please answer the following:

1. Is the black bee more apt to store surplus honey in boxes than the Italian?

2. Will a hybrid queen mated with a black drone produce hybrid drones?

3. I had a swarm of bees this summer that had a queen who begun at the bottom of three honey boxes to fill them, and did fill them. What was the matter?

4. How will it work to pack a double walled hive with sawdust, to stand out of doors all winter?

Bees have done very well here this season. The largest amount of honey that I ever heard of being taken from one swarm, was one belonging to my neighbor; a young swarm that made 56 lbs. of surplus honey.

S. Stockton, N. Y. L. N. SHEDD.

1. We have never seen any difference in the two varieties of bees, in regard to their working in boxes. If honey is plenty and the colony large enough, and boxes are put on early, any bees will work in them.

2. We do not know what the drones would be called in that case—"hybrid" we suppose.

3. There was nothing the matter. Bees often fill boxes in that way, especially if the bottom of the box is very near the comb below, or if the top of the box is too smooth.

4. We have never tried a double walled hive, packed with sawdust, and cannot advise it; but if you put a dry goods box six inches larger than the hive, over it and fill the space between with straw, hay, or chaff, covering the top of the hive also with straw and putting on a cover, leaving the entrance of the hive a little way open. Your bees will winter well out of doors. We would protect double walled hives in this way, as well as single. It is not much trouble, if it does take some words to tell you how.

DEAR EDITOR:—I have a colony of bees (Italians) that have not yet disposed of their drones, at this date, Oct. 15th. Can you account for it? What shall I do? A SUBSCRIBER.

Examine the hive and be sure they have a queen. The unseasonable appearance of drones sometimes indicates that there is no queen. If they are all right in this respect, do nothing about it. The cold nights that are at hand will dispose of them. When honey is plenty, bees tolerate drones in the hive until they die a natural death.

Another season be sure you do not have too much drone comb in the hive.

ED. JOURNAL:—Why does some of my honey granulate while others does not? Is there any remedy? How can I restore it to liquid form? INQUIRER.

We cannot tell why honey granulates. If any our can, let us hear from them. We only know that some honey in some seasons granulates very quickly, while other seasons the same quality of honey apparently remains liquid.

Some tell us that if no particles of comb are left in the honey it will not granulate. If this *is* so, why is it? What can the comb have to do with granulation?

Others tell us that if kept air-tight, in the dark it will never granulate; yet we have had it in tight oak barrels become as solid as tallow. Certainly the barrels were "air tight" and in them the honey was in the dark!

We find Linden honey almost sure to granulate. Honey from the fall flowers we have had no touble with. Can any one tell us why this is so?

If there is a remedy we do not know it, will the "doctors" answer this question.

To restore it, requires heat. We place it in shallow pans over steam—and it melts readily. If not done in this way there is danger of burning it. It melts before it reaches boiling heat. Many people prefer to use it in the solid state, but as a rule it does not sell until melted.

Some honey dealers refuse to purchase honey of strangers unless in this state, reasoning that they are "sure of its purity when granulated, for none of the imitations of honey will harden." Another merchant advises putting acid in the barrels of extracted honey to prevent granulation. We would give no such advice. Put honey into clean sweet barrels, or kegs, letting it settle a day or two first, and straining carefully; if it hardens melt it, but add nothing to it, selling pure honey just as it is thrown from the combs.

ED. JOURNAL:—Shall I break up my nucleus hives, or can I keep them over winter in any way? If I cannot, what shall I do with the young queens in them? A little information on this point will be valuable to us.

Can weak columns be wintered over, and how? J. E. R.

Olmstead, Minn.

We have kept neucleus hives over winter, but always found it cost too much time and care. To be safe, they must be kept in a very warm place, nearly at summer heat and often examined as to their condition, and if neglected you find them dead, and all past trouble with them thrown away. We kept a pint of bees, one winter in a small hive, and in the spring built it up by June to a 15 frame colony, full of brood, from which we made two other strong colonies and took some surplus honey. But we were satisfied by the experiment that it could be done and since then have never tried the same experiment. It was a costly one.

We hardly know how to answer the question as to wintering weak colonies, because it is so hard to know what you mean by weak colonies. Hosmer winters only colonies that are what he calls "small ones." He does not believe in winteriug too many bees, but he keeps them in a very warm place and knows just how to manage them in spring. He is one of our most successful bee-keepers, and we have no doubt his theory is a correct one. Yet he said to us on one occasion, "I do not like to have you say too much about my method of wintering; it is so hard at a distance to explain just how many bees go to make up one of my little colonies; or to tell just how I prepare them for winter. People misunderstand me, and then when their bees die call me and my method "humbugs?"

Our advice to beginners, and indeed to

all ordinary bee-keepers, is: Winter none but strong colonies; be sure they have plenty of bees, and enough honey to last until April, (that should be at least 20 lbs. if weighed in this month) and plenty of empty room for the bees to cluster. Give space between each comb for air to pass at top, putting on quilts over the spaces; nearly close the entrance. These rules apply equally to those who protect on summer stands.

Our way of breaking up the nucleus or small hives is: Put the frames of two, three or four together in a full sized hive, and shake the bees together at the entrance. If all the queens but one are taken from them a few days before, they will unite peaceably. Then we take the queens from No. 1 and No. 2, (perhaps from No. 3, if the nuclei are not strong) and leave No. 4 with its queen. A few days after, have a full sized hive in readiness, put all the best combs, with enough honey in it, shaking off what bees you can at the entrance, (if some are left on the combs it is no matter). All the bees will go in, and all being in a strange hive, have no disposition to quarrel. The first cold night will find them comfortably clustered together, and they are to be treated like any other hive.

Unless colonies with two little honey have been fed before this month, they had better be united in the same manner.

What to do with the surplus queens, you must decide for yourself- If they are pure Italians, give them to some hives that have poorer queens. They are few apiaries where some queens may not be found that are worthless or nearly so, and this is the best of all reasons to replace them if possible.

Mr. Rogers, a subscriber in Nebraska, reports a singular circumstance. On examining one of his hives containing a choice queen, wings clipped, he found queen cells, indicating a determination to replace the queen. He destroyed them; but in a few days found others, which he also destroyed. The hive was not opened again for two weeks; when a young queen was discovered, just emerging from a cell. Not seeing the old queen, Mr. Rogers supposed her to be killed.

The young queen became fertile, but on opening the hive again, some time after, to his surprise he saw the old queen, and on the same frame with her young one. Several times since, he has seen both old and young queens apparently living in peace.

We have twice seen a young and old queen together in the same hive, but believe such instances are very rare,

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Bee-Keeping.

The following is the report of the committee on foul brood:

SALT LAKE CITY,
Oct. 9th, 1874.

Foul brood is a contagious disease among bees, affecting the young bees in the larva state before and after they are capped; they die in the cells and become putrid, emitting a stench, easily detected several feet from the hive.

On examining the frame of brood, the caps over the diseased larva are depressed or indented and of a darker color than the healthy brood.

Bee-keepers have been unable to assign a cause for this disease, neither have they found a remedy, but to destroy all the comb containing brood by burying it. Comb containing honey can be put into an oven at night, when there are no bees about, and melt out the honey which may be used in the family, but must not be fed to bees; after it is melted, let it stand until cold, when the wax and all impurities will be found on the top, which must be taken and buried.

The hives with the frames must *not* be used for bees again, nor put where they can get at them.

We would advise all bee-keepers to examine their bees at once, and if foul brood is found they must follow the above instructions and rid the Territory of this terrible disease.

I. BULLOCK,
J. MORGAN,
C. MONK,
G. BAILEY,
Committee.

The philosophy of wintering bees is a right temperature of atmosphere and a proper escape of the surplus moisture accumulating from the respiration and perspiration of the bees.

American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } Editors.

NOVEMBER, 1874.

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Seasonable Hints.

There is nothing to be gained by disturbing bees in cold weather. Let them remain clustered together as quietly as possible.

If they have been examined, equalized, and those fed that need it, while the weather was warm, there is nothing to do for them until the time for putting into winter quarters. Any time this month it is safe to put them away. We always choose a night following a warm day, when they have flown freely, if we can, and move them as quietly as possible.

We do not like to leave them out until the combs become frosty.

If necessary to move bees any distance, before putting them in a cellar or house, we would set them down after moving, and leave them until perfectly quiet and compactly clustered before putting them in.

A moderately warm time is better than a cold one, to move bees, because, when it is very cold every bee that is made to leave the cluster by the disturbance becomes chilled.

Some upward ventilation is necessary, but if quilts are placed over the frames, enough air is given at the top and yet there is no draught of air through the hive.

Nothing is gained by putting bees in a cellar that freezes. If they are to be exposed to cold below freezing point, let it be out in the open air.

We would never feed during winter. Be sure each hive has food enough to last until spring, then let them alone and save your feed for March and April.

We like to have a space between the bottom of the frames and the bottom board of a hive, two or more inches deep, *in winter*, that the bees that die may drop below the comb, and the bad air have room also to fall. After bees are put away, let them alone. Be sure they are comfortable and then forget them. You can make hives for next year now, read the Bee Journal and write your experience for it, and be prepared to make your bees "pay" next season.

Profitable Business for Women.

One of the most profitable as well as interesting kinds of business for women is the care of bees. In a recent agricultural report it is stated that one lady bought four hives for $10, and in five years she was offered $1,500 for her stock, and refused it as not enough. In addition to this increase in her capital, in one of these five years she sold twenty-two hives and 430 pounds of honey. It is also stated that in five years one man, from six colonies of bees to start with, cleared 8,000 pounds of honey and fifty-four colonies. When properly instructed, almost any woman in the city, as easily as in the country, can manage bees and make more profit than in any other method demanding so

little time and labor. But in the modes ordinarily practiced few can make any great profit in this employment. It is hoped a time is at hand when every woman will be trained to some employment by which she can secure to herself an independent home and means to support a family, in case she does not marry or is left a widow, with herself and family to support.

Bee-Keepers' Re-Union.

Mr. Hoagland, President of the Bee-Keepers' Association, sends us particulars of arrangements made for the annual meeting at Pittsburg. Our readers will see that he has done his part well toward making the meeting a success. We hope for a very full attendence and a profitable session. Our friends in that part of the country have been for several years desirous of having the meeting at Pittsburgh, and we are sure much will be gained by every one who attends the meeting.

Let all the members of the Society make an effort, and a sacrifice if necessary, to attend. We are sure that all who attend will find pleasure as well as profit in the interchange of experience

Let all go determined to impart all they can as well as to gain from the relations of others.

These meetings have been in the past, re-unions of great interest, and we expect the one at Pittsburg to be a grand success.

Honey Crop of San Diego.

From the San Diego *World* we learn that the honey crop of San Diego for 1873 was 119,000 lbs., and it is expected that this year it will be equal 200,000 lbs. J. S. Harbison has five apiaries in that county, comprising over 2,000 hives of bees. R. G. Clark has two, comprising over 800 hives. These are the most extensive bee owners in the State.

The bees begin working in that country about the first of February, and the season for storing honey lasts from June to September.

The finest honey is made from the flowers of the sage plant, which grows here in such abundance. This is the true sage, and must not be confounded with the sage brush of Nevada and the northern counties. The flat-top or "buckwheat" greasewood also affords excellent honey. The bloom of this plant closely resembles that of buckwheat, hence the name. The flowers of the sumac is another source, and the ice plant, which covers so much of the country, is likewise sought by the bees. This latter plant makes a very white honey, but it is liable to the objection that it turns very quick to sugar, or candies, as the honey men say. The bee-keepers therefore try to avoid it.

The bulk of the honey will find a market in the east.

The honey made in San Diego is very white and handsome, and of excellent flavor, commands a good price and finds a ready market wherever offered.

In the October number we should have acknowledged the receipt of a nice lithograph of the Hexagonal Apiary, from Mr. A. I. Root. It is a nice thing and shows how an apiary could be systematized and carried on for both pleasure and profit.

H. A. King & Co., have removed to 75 Barclay Street, New York, and there publish the Magazine, and National Agriculturist. This latter publication, came out for September with a new and elegant heading. It is published at $1. a year. Send for sample copies.

Particular attention is called to the advertisement of Mrs. S. E. Spaids' New York Honey House. The address before inserted was a mistake. It is correct as found in this number of the AMERICAN BEE JOURNAL.

We will send the AMERICAN BEE JOURNAL six months for a copy of Volume 2, No. 1. We want it to complete a set. Who will trade with us?

Let every one writing this office make all Postal Orders, Drafts or Checks, payable to THOMAS G. NEWMAN. Address everything of whatever nature to

THOMAS G. NEWMAN,
CEDAR RAPIDS, IOWA.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. X. CEDAR RAPIDS, DECEMBER, 1874. No. 12.

Correspondence.

For the American Bee Journal.

Western Bee Plants.

DEAR EDITOR:—I believe I promised in a former communication to give you the result of my experiment with the Western bee plants, Lophanthus Anisatus and Cleome Integrifolia, in this locality. I am not aware of any previous effort to introduce them, though others may have tried and perhaps with better success. As you remember I wrote to H. A. Terry of Crescent City, Iowa, for seed in Sep., '73. The seed came promptly (after your forwarding mine to you) and though then the middle of Dec., was sown immediately; in soil previously well prepared, in drills three feet apart. But being sown so late the plants did not show themselves until the following spring, and then only very sparingly—here and there one—showing that the locality or time of sowing did not suit them.

The, perenial, Lophanthus Anisatus only started some dozen plants, with a single stem or stock, which grew 12 to 18 in. high. These produced one or more flower stems somewhat resembling catnip blossoms in appearance, but with the unmistakable anise fragrance. Though continuing in bloom for several weeks I did not notice a single honey bee upon them. The seed ripened in Sep., and was carefully gathered for replanting.

Cleome Integrifolia, the annual, came up much more promptly and evenly. It made a growth of from 2 to 5 feet in height, sending out many branches, and blooming abundantly by the 1st of July. I watched its growth closely but the bees found the bloom first, and began work upon the very first blossoms. They seemed to enjoy it exceedingly. It was no small gratification to see them as if vieing with each other for the coveted luxury. For two or three hours each morning its sweet fragrance and the buzzing of the busy little workers were alike interesting. But after the warm sun had evaporated the moisture of the dew, its agreeable odor disappeared, the bees forsook it and only the dazzling beauty of the finely shaped little shrub or plant, with its multitude of flowers remained. It continued to bloom for six or eight weeks and would probably have continued much longer but for the appearance of a striped little bug, in great numbers, destroying the foliage and in a short time killing the whole plant.

Thus you see our experiment has not been so satisfactory as we might have desired. But it has not left us without a keener interest and hope for another year. We are greatly in need of something to fill a vacancy in the honey harvest during the mid-summer; and we still hope these plants may serve to help us through. Bees have done so poorly here for two or three years that many have become completely discouraged.

Many persons lost all their stocks who had kept bees for over forty years. We kept ours through, by dint of untiring watchfulness and care. Though we had buckwheat and clover we still had to feed on sugar syrup; and frequently united the weak stocks. Late in the spring, however, they began to liven up, and when the poplar or tulip bloomed they filled their hives in a little time. We had been so discouraged with long continued failure and losses, as to be taken quite by surprise to find them so heavy, and getting ready for swarming. The extractor was soon put in readiness and used to excellent advantage. Since then the season has been favorable. The autumn harvest from wild flowers has been good. We have had to watch closely to prevent filling up the brood chamber. Empty frames of comb placed in the centre of the hive would be filled with honey almost before the queen could get a chance to deposit eggs in them. It has given us an excellent opportunity of testing the advantages of the moveable frame hive and the extractor.

As beginners in apiculture we have read your JOURNAL with great pleasure and profit. We are quite pleased with the union of the two leading bee journals. You have our best wishes.

New Garden, N. C. A. E. KITCHEN.

For the American Bee Journal.

Packing Bees for Winter.

DEAR EDITOR:—As I and a friend of of mine had excellent success last winter in keeping our bees, we will here give the plan we adopted. Suppose you get a box for each hive, four inches larger each way than the hive and 20 in. deep ; have a bottom in the large box. Before nailing on the bottom, make an entrance for the bees to fly out, when weather permits. This we call the front of hive. Now on the back, exactly over the entrance, cut a ∧ shape, one inch long, and just small enough to keep out mice. Now put in a long box a false bottom, leaving a crack 1 in. wide, from front to rear. Now put in your hive, and by looking through the entrance, you have a passage 1 in. wide from front to rear. Now put a strip of board over this passage, front and back, to prevent packing from closing it up. Then put on quilt, mat, carpet, or anything woolen to keep the bees in, and pack the 4 in. space between outer hive and hive proper, with chaff, stuff it well and fill the box until full; now put on cover to keep out all storms, and keep perfectly dry. Arrange a door step and the job is done.

The bees wintered in those boxes to perfection, and did not dwindle down like those wintered in cellars, but came through the bad weather in May and April without loss, and each one of them contained double the number of bees in April and May, that those did that came out of the cellar. All those swarms were nearly a month earlier than those from the cellar. The reason we think was this : the packing in the large box prevented every little change of weather from being felt by the bees, and consequently the bees never left the hive until it was warm enough for them to fly and regain the hive again; but those wintered in the cellar every time the sun came out and struck it, the hive would be on the wing, and not one-fourth of them ever returned to their hives again.

Probably a great many bee-keepers may think this too much trouble. But when we remember that some swarms will pay us a net profit of $40 in one season, we think we can well afford about 40 cents for a box, and an half an hour's time to pack them for winter. We manufacture a straw mat for each hive, on the plan recommended in *Gleanings*. We put on next to the bees a woolen blanket and the mat on top. We think the mats O K.

Do not remove the outer box until all bad spring weather is past. Brother Townley wintered 50 swarms last winter in this way to perfection ; he did not use the mats, but woolen and cotton cloths ; but the mats I am delighted with.

The past season was a fair one, although we got but little white clover honey ; we got plenty of basswood and fall flowers. We started the season with 33 colonies ; 20 good, and 13 quite weak ones. We have at this date 54 swarms and 2,200 lbs. of honey in glass boxes, and about 350 lbs. of extracted, besides a considerable amount in large frames, not in marketable shape ; but it will come in play next spring in pushing colonies along and starting new ones. J. BUTLER.

Jackson, Mich.

For the American Bee Journal.

This Year's Honey Season.

FRIEND EDITORS:—I wonder what some of your correspondents that report such long honey seasons and large yields of honey would say if they had my location and season ? I used my extractor for the first time this year on the 12th of June and on the 24th of June I used it the *last* time. I took over 200 pounds from ten hives in that short time; one hive giving me sixty pounds. My principal pasturage is white clover, and the extremely dry weather this summer cut that so short, that from the 1st of July till the 1st of August, the bees did not make enough honey to live on. About the first week of August the smart weed, of which there was an abundance, and the buckwheat commenced blooming, and by the middle of the month the bees had so far recruited their hives, that some few in the neighborhood cast swarms, but as flowers can't secret honey out of sunshine, and especially as hot as it was about that time, all hopes of surplus honey, and an increase of stock, had to be abandoned.

I am using the two story Langstroth hive, and Winder's new Queen City extractor; two things that are as essential to success in the bee business, as plenty of flowers, and a favorable season.

I found very good sales for my extracted honey at 40 and 75 cts., when put up in one and two pound jars. To put in the corks I used a lever that was fastened to the wall just the hight of the jar. After pressing the tin foil cap on with my hand, as well as I could, I fastened one end of a twine string to the wall and tied the other end around my body; then by sitting down on a chair I could lean forward to give slack enough to the string to give one turn around the neck of the

jar; then by leaning back I could draw the string as tight as I pleased and by rolling the jar towards me I could press the cap on nicely and quickly.

If I had nothing but the black bees to work with, I would quit the business; it almost makes me mad to open a hive of them and have all the little *cowards* run to the bottom of the frames just as if they were crazy. I have one hive that when I examined it for winter, Oct. 1st, I found a nice Italian queen that had been hatched about two weeks and plenty of drones. As she was hatched so late in the season I came to the conclusion she did not become fertilized, but all of my queens quit laying about that time so I had not the opportunity of knowing for a certainty. I will know what is the matter with them next spring.

I very seldom use smoke or a veil to work with my bees (unless they get too awfully cross), for the first is a bother and excites the bees too much, and the latter shuts up the road to my mouth. I would rather take a few stings than to do without eating honey. I use no remedy and can stand 15 or 20 stings a day tolerably well. When I commenced the business one little sting would swell more than a dozen doses now. I suppose "the hair of the dog is good for the bite."

Bethany, Ohio. W. S. Boyd.

For the American Bee Journal.

Pure Queens Working in Boxes.

Messrs. Editors:—The Journal is just received, and in looking over it I find your correspondent from Binghampton, N. Y., complains that he has not succeeded in getting his pure yellow Italians to work in boxes. The difference in localities may make the difference; but be that what it may, my experience is just the reverse. I have never had any trouble to get the golden beauties into boxes, for the reason that, as he correctly states, they are prolific and fill their hives with bees, and as soon as mine fill up with bees they go at the boxes with a vim not excelled by the best hybrids, which are certainly good for honey—equal to, but not better, than the pure yellow boys. Such queens as he describes would be a very valuable acquisition to any apiarian in any State, that rears queens for sale, as such queens are in demand. I would give two good hybrids, and perhaps two more, for such a queen that will duplicate herself every time in her queen progeny. I have had almost all kinds of queens, and but few such that invariably duplicate themselves in queen progeny. I find it difficult to get such queens, and have had imported and homebred of the first order, and yet comparatively few such as he describes, the difference, again, probably being in locality. I am satisfied that success in apiculture varies in different localities; so, likewise, do the color of queens, etc.

Melrose, Pa. R. W. Harrison.

Old Harry's Report.

Dear Editor—Many bee-keepers have had their say in the journals in regard to wintering; and their theories are as various as their pens. Instinct teaches the bees to build comb and fill it with honey; when circumstances place the comb all ready there, instinct teaches them to fill that comb and keep it full. Now by taking advantage of that instinct we may empty that comb a thousand times and a thousand times will they fill it; but as cold weather has come I will stop on that train of thought.

Soon all will be silent around the hive. Don't let that hum be silence forever; don't let the bees perish in the icy grasp of old boreas. They have worked hard for you the past season, charged you nothing and boarded themselves. Their product has added to your purse. Now study their nature, their habits, and their instinct, and afford them protection accordingly, but as you value their living, dont try to make them conform to some pet theory on ventilation, or some patent clap-trap ("ventilated,") misscalled a bee-hive, or they will be sure to suffer. They require but little air in the winter and that little they want to keep warm for comfort, now, with your ventilator, you are continually drawing the warm air off, that they much need. As it is continually being drawn off, they must be continually heating more, which exhausts them, and they die before they see the warm sun of spring. They die from over work, trying to keep warm. But it is all right, their tombs are patented, and the "hard winter" is to blame. Then nature teaches them to plaster up every crack and crevice except their passage-way. They do it in order to save as much warmth as possible. If you interfere with this, they will almost be sure to die.

Protect the outside of their home from the cold blast, pelting rain and sleet. Keep their hive dry out side; then let them alone, and they will take care of the inside. Bee-keepers, study the nature and instinct of the bees and comform your operations to that and they will place you on the royal road to wealth.

Honor to whom honor is due. We

would not pluck one leaf from the wreath of any bee-keeper crowned with honor, for any new and beneficial discovery, but when I see that wreath snatched from one and about to be placed upon the brow of another, as I think unfairly, then I will speak. I know neither one, personally.

See Bee-keeper's Mag. 1874, Sept. No. page 121. Mr. H. E. Bidwell, last winter made a new discovery! A what! Why he discovered that bees could be put into hot beds and let have cleansing flights at the apiarian's option. Have all bee-keepers got hot beds? the "Old Harry" has none! Some body else made that discovery, long before, on a easier and less expensive plan

See *North American Bee Journal* 1873, April No., page 234, Jewell Davis, of Ill., tell us how to give our bees a cleansing flight at any time. Last winter I made me a flying-box, and tried it. I shall try it this winter, if occasion requires. I have mine made about three feet every way; First I make a solid bottom, then cut a hole in two inches less than my hive. I then nailed up sight posts at each corner; then one inch strip across, from post to post, and covered it with a musqueto-bar; when I want to fly a swarm I bring them into a warm room, remove the covering off the hive. Set on a flying box. It would surprise you to see the bees come out into the box and play. Oh! yes; how do I get them to cluster again? They will cluster themselves when they get through, or you can cover all up with a quilt or a blanket; any thing to make it entirely dark. Well, they will soon return to their nests. Reader, who discovered it? Bidwell or Davis?

Leesburg, Ind. HARRY GOODLANDER.

For the American Bee Journal.

What I Have Done.

I went into winter quarters with 850 colonies, about 50 of them, not in very good condition. I lost 48, during winter and spring, and had more than one half weak colonies, the other half was in a medium good condition. I sold and let my girls have 100, and had consequently about 700 left. These were divided into 11 different apiaries and later in the season into 15. They increased to 1,158.

And gave on box honey, net weight		lb14.887
"	extracted	" 10.332
Total,		lb25.219

This amount was actually shipped and sold to Mrs. I. E. Spaids, honey dealer in New York. I have, besides this, about $600 of unfinished box honey on hand, previously sold and given away over 100lb, total amount 25.919lb. Or an average of about 21lb of box honey and 16lb of extracted. I however, extracted only from 70 hives, which gave an average of about 147½lb.

Since my white and yellow box honey was sold, delivered at Jefferson station for 25 cts. per pound, extracted only for 12 cts. I cannot see the very great gain, in extracting, when I consider that I had selected the very best stocks for extracting, while there was a very great number of stocks that never gave any box honey, nor could I have extracted much from them.

To me it seems that I can easier raise box honey at 25cts., than extracted for 12, even if this latter could always readily be sold. The honey business in this neighborhood has become very important. I, myself, shipped, including five lots from other bee-keepers, two car loads of a gross weight of 42,000lb, and a number of other parties shipped and sold, surely not less than 30,000lb more. And this was only about half as good and favorable a season than four years ago, But I fear we get overstocked, and unless we sell or spread out much more, our honey yield will diminish. Honey bees are considered very good property and sell readily at full prices, if offered for sale.

Jefferson, Wis. ADAM GRIMM.

For the American Bee Journal.

My Experience.

I made a visit to G. W. Stineberg, Shreve, Wayne Co., Ohio. Purchased a queen from him that I am very much pleased with, and he gave me an idea to save comb from moth. He says, stretch a wire near the roof of a barn, and there fasten your comb about four inches apart and moths will not interfere. I had been smoking with brimstone, kept in a close box, and soaked them in water, put in extractor, threw the water out and dried in the shade, but still lost some. Stineberg's advice was quite a relief. I have tried it and the short experiment I have had, has proxed satisfactory. If the articles, appearing in the JOURNAL, were as freely written, as our conversation generally is when we meet Bee Friends, we would all feel better and derive more benefit from each others experience, and the failures given as freely as the successes. But not long ago a veteran said, it does him good to laugh at the articles of young queen raisers. I think it poor policy while attempting to teach the stuttering child to laugh at it. Why cant we have free exchange of ideas and experiments without snapping, ridiculing, &c.? Who can differ more than the claimed veteran bee-men? Very few will acknowledge failures, except Novice, and he is ridiculed for it. No wonder articles and criticisms appear without signatures. I. S. MILLER.

Bucyrus, O.

Annual Meeting of the North American Bee-Keepers' Society.

Pursuant to notice, the above named Society commenced its annual meeting in the hall of the Germania Saving's Bank Pittsburgh, Pa., on Wednesday morning, Nov. 11th, at 10 o'clock. About fifty members were present, which number was increased to seventy-five or eighty by new arrivals in the course of the day.

President Hoagland occupied the chair. Organization for regular business was deferred until afternoon, and the rest of the forenoon occupied in suggestions of topics for discussion, and informal conversation or matters pertaining to the success of the meeting.

Rev. W. F. Clarke moved that a temporary committee of three be appointed by the chair, to prepare business for the session. Carried and W. F. Clarke, H. A. King and Mrs. Tupper were appointed said committee.

A motion was also adopted providing for the appointment of a committee of two, to act with the Secretary, Abner J. Pope, of Indianapolis, in preparing the proceedings of the session for publication.

The meeting then adjourned until half-past one o'clock P. M.

The following abstract of the proceedings is partly made up from the reports of the Pittsburgh daily press, and partly from the notes of our own reporter.

AFTERNOON SESSION.

The Society was called to order by President Hoagland, and the proceedings opened with prayer by the Rev. W. F. Clarke, of Canada, after which the President made the following

OPENING ADDRESS:

Ladies and Gentlemen of the North American Bee-Keepers' Society.

Not being present at the last annual meeting, Louisville, Ky., I would embrace the present opportunity of thanking you for the honor you have conferred upon me, in selecting me to preside over your deliberations. Any errors I may commit, I hope you may attribute to the right source—the head, and not the heart.

Bee-keeping, although not so popular a pursuit as many others, is none the less edifying and profitable. The honey bee is almost the only insect that has been domesticated by man, and aside from its giving us wealth and a delicious luxury, it possesses many charms, and is a study for the naturalist. This is only the fourth session of a continental society in our land for the purpose of investigating and learning of the wonders of this little insect.

For ages past, organizations have been effected by our best men to develop the various agricultural resources of the land. And during the same period the most industrious bees of our continent have been consigned to the ignominy of a death by fire and brimstone.

If apiarians had given the time and attention in selecting the males and females of the largest and most industrious, prolific and docile colonies to breed from, with the same care, shrewdness and attention that has been practised with horses, cattle, sheep, hogs and poultry, we would not be under the necessity of importing queens from Italy, but would have a race of bees much superior to the Italians. Man can not obtain labor from any other source as cheap as from the honey-bee. They work for nothing and board themselves, only requiring house rent free.

According to the census returns of 1850 the amount of wax and honey produced in the United States was 14,853,790 pounds; in 1860, 126,386,855 pounds. With the increased attention given to the pursuit, together with the increase of colonies, we have no doubt but the present returns will show a vast increase of product.

Possessing, as we do in America, a genial climate and a fertile soil, susceptible of the production of richly varied honey-producing plants and flowers, with a due degree of knowledge and enterprise, the bees could be increased to an extent that the profit arising therefrom would pay all our taxes and supply our tables daily with one of the choicest luxuries of life.

Many of the best men of our land are now employed in acquiring practical knowledge of the nature and habits of the honey-bee. The science is advancing steadily, and the future is big with developments in apiarian pursuits.

The reading of the minutes of the last session was dispensed with. They having been published.

REPORT OF THE BUSINESS COMMITTEE.

Mr. King, from the temporary business committee appointed at the morning session, submitted the following report:

1. That the election of officers be deferred until to-morrow, to take place at a time to be designated by the Business Committee.

2. That the following topics be discussed at the afternoon session: First—"Advantages of Bee-Keeping." Second—"How is the queen produced from the Worker Egg." Third—"The Sting of the Honey-Bee," to be introduced by President Hoagland. Fifth—"Adulteration of Honey," to be introduced by a paper from Rev. H. A. King.

The report was adopted.

THE ADVANTAGES OF BEE-KEEPING.

The first topic on the list was taken up, and was introduced by Mrs. E. S. Tupper, of Des Moines, Iowa.

She said she could not imagine why she had been called upon to open the discussion on this topic, unless it was for the reason that females are supposed to be always ready to say something, whether they can talk to the point or not. She then proceeded to state some of the advantages of bee-keeping, and claimed that it was not only profitable, but that the presence of bees in and about orchards and vineyards tended to increase the yields from vines and trees. In support of these Mrs. T., who is a fluent and pleasant speaker, referred to observations made by herself. She also claimed that bee-raising was specially advantageous

to ladies, who were thus afforded, not only pleasant and profitable occupation, but also gave them out-door work, and thus benefited their general health. She spoke briefly on the question of profit, and claimed that there was no other business which offered such strong inducements to those who wished to make money on small capital.

There was further discussion of the topic, by Messrs. Hoagland, Zimmerman, Chapman, King, Clarke, Anderson, Rush, Pope, Benedict and others.

PRODUCTION OF THE QUEEN-BEE.

Mr. Alfred Chapman opened the discussion of the topic, "How is the queen-bee produced from the worker egg?" He contended that the egg of the queen was the same as that of the worker; that in some cases the larvæ was taken by the bees and put in the queen's cell, and that the drone also was hatched in the queen's cell.

Mr. A. Benedict said that he had this year noticed a drone in a queen's cell, but it was the only one he had ever seen there, and, it was twenty-four days from the egg.

Further discussion followed, which was participated in by Messrs, King, Zimmerman, Chapman and others.

Rev. W. F. Clarke was called upon to deliver an address upon the next topic, and responded as follows:

THE STING OF THE HONEY-BEE.

A painful rather than a pleasing interest attaches to the subject now proposed for discussion. Possibly this may account for the fact that so little is said about it. In most minds it awakens disagreeable memories or unpleasant apprehensions. We incline to be mute on distressing themes. In looking through an agricultural library, one is impressed with the idea that there has been a sort of avoidance of this subject. You can readily find ample details concerning the honey-sac, the pollen basket, the wax works, the wings, the eye, but marvellously little about the sting.

Kirby and Spence, in their excellent treatise on Entomology, devote a paragraph to "insects which attack man from revenge or fear," and remark, "these all belong to the Linnæan order, *Hymenoptera*, and the tremendous arms with which they annoy us are two darts, finer than a hair, furnished on their outer side with several barbs, not visible to the naked eye, and each moving in the groove of a strong and often curved sheath, frequently taken for the sting, which, when the darts enter the flesh, usually injects a drop of subtle venom, furnished from a peculiar vessel in which it is secreted, into the wound, occasioning, especially if the darts be not extracted, a considerable tumor, accompanied by very acute pain. Many insects are thus armed and have this power." Prominent among them are mentioned the ichneumon, the spider-wasp, the honey-bee, the wasp and the hornet.

Mr. Quinby has just eight lines on this topic in his valuable work entitled "Mysteries of Bee-Keeping Explained." They are as follows: "The sting of the bee, as it appears to the naked eye, is a tiny instrument of war, so small, indeed, that its wound would pass unheeded by all the larger animals, were it not for the poison introduced at the same instant. It has been described as being composed of three parts, a sheathe and two darts. Both the darts are furnished with small points or barbs like a fish-hook, that hold it when thrust into the flesh, the bee being compelled to leave it behind."

The only full and scientific account of the bee's sting we have been fortunate enough to find is embodied in a communication to the August, 1870, number of the *American Bee Journal* by J. R. Bledsoe, of Natchez, Mississippi. Four cuts illustrate the appearance of the various parts of of this warlike implement, as seen under a powerful microscope. One of them, which shows the point of the sting, is a truly formidable-looking object—a weapon of war well calculated to intimidate an enemy or appal a victim. Mr. Bledsoe was led to this microscopic examination of it from certain peculiarities of experience connected with a sting he received, and it is not surprising, when we look at the terrible pictures drawn by him to find him saying, "I certainly dread bees more now than before my investigation." The pith of Mr. Bledsoe's interesting paper partly condensed, and partly quoted, literally is as follows: He observed in extricating a sting from his person, that a portion of it remained in the wound, and that the part still fixed in the flesh was extremely fine in size; finer, indeed, than the portion removed, and fully as long. It also appeared to be a tube pulled out of the main sting, much in the manner of the working of a telescope. A microscope view showed however, that it was not a perfect tube; neither does it work with telescopic action. The bee's sting is a complex instrument, being composed of three distinct parts, of which the sheath forms one. These three parts join near the edges and form a tube, which, viewed sectionally, has the shape of a triangle, the angles being rounded off. The sheath near its point is narrow, but grows wider towards its base, where it gradually embraces the remaining parts, thereby keeping them in place in their working. Near each edge of the inner or hallow side of the sheath runs a ridge which fits a corresponding groove in each of the outer parts. Near its point, which is rounded rather blunty, it is armed with two feeble sets of barbs, numbering as many as four in each set. The base of the sting or sheath is large, being broad and somewhat flattened, with an oblong hollow, which constitutes a receptacle for the poison just previous to injection into the wound.

The other two parts constitute the sting proper, and in a sectional view are semi-circular, the upper edge being thicker than the lower ones, and squarer, one of the edges having a projection extending along the under or inner portion of it, thereby forming a rabbet along which the opposite part freely moves. The under or inner edge of each of these parts, tapers down to extreme thinness, while near the termination of the edge, there runs a minute groove which corresponds with the ridge mentioned in the description of the sheath, and along which the parts move freely. Each of these parts proper, tapers down to an exceedingly fine point. Near the point begin the barbs, which, in some stings, number as many as ten, extending along the sting near-

ly one-half its length, and are well defined.

The parts are of a horny consistency, of a deep red color, and transparent; they are also hollow along the greater portion of their length, intended, perhaps, to combine lightness and strength.

The two chief parts of the base of the sting gradually assume a nearly round and tubular form, each terminating beyond the base of the sting within the body of the bee, and having an arm attached to it at right angles, which forms a part of the muscular mechanism by which their movement is effected.

Also, to each of the chief parts, and located in the cavity formed at the base of the sheath, is attached a plano-convex valve, the convexity of which is adapted to the inner side of this receptacle, and they occupy about one half of the space therein. When the sting is in action each of the chief parts are thrust out out and withdrawn alternately; so that when working its way into a wound the valves, by their action, force out the poison which fills the cavity and which is received from a sac situated apart from the base of the sting. The poison readily passes along the tube, (which is a continuation of the cavity,) and finds its way into the wounds with great facility, owing to the peculiar formation of the sting.

It often happeds that one or both of the chief parts of the sting are left in the wound, when the sheath is withdrawn. These being very minute, are seldom perceived, the person stung congratulating himself at the same time that the sting has been extracted. Additional pain and swelling result from leaving any portion of the sting in the wound.

In common with all the doctors who prescribe for the bee-stung patients, Mr. Bledsoe advises the immediate removal of the sting, but there is a touch of grim irony in the advice, when it is added, "it continues its working motion for several seconds after being torn from the body of the bee, and thereby buries itself so deep as generally to make it impossible to withdraw all of it."

The peculiarity just noticed, probably accounts for the severity of the consequences resulting from bee stings, in certain cases, in which highly sensitive parts of the body are attacked: but in view of the fact that the extremely fine point of the sting is armed with a number of barbs, may it not be questioned whether anything but the outer sheath is ever got out of the wound inflicted by this instrument?

Leaving the scientific paper of Mr. Bledsoe, and indulging in some general remarks, the celerity and force with which the sting is propelled cannot fail to indicate a remarkable endowment. It has been styled a weapon of war, and such it is, always ready and highly formidable. Is any other creature, in proportion to its size, so thoroughly equiped for martial purposes as the bee? It has been remarked that if man were as good a jumper, according to his size, as the flea, he could clear the dome of St. Paul's at a bound. In like manner, if he were armed proportionally as perfectly as the bee, he would be a terrible warrior indeed. The bee itself, if it had human depravity, would be an insect so intolerable that, spite of the sweet honey it brings us, we should be compelled to go in for its extermination.

Fortunately, however, the bee is pacifically disposed. It is armed for the preservation of peace, and not for the prosecution of war. It maintains "an armed neutrality," and must be stirred up or interfered with in some way, to show sign of menace or threat of attack. The common idea seems to be that the bee resembles the devil, who goeth about seeking whom he may devour. But the foraging excursions of this industrious insect are for other purposes than to find victims to sting. The stings of the bee colony are undoubtedly meant to defend their stores, and if bees were as harmless as flies, very little honey would ever find its way to the market or the table. Hence, the idea of some time or other bringing apiculture to such perfection as to breed a race of stingless bees, is as unwise as it is utopian.

There can be no doubt that fear of being stung is a very great hindrance, probably the greatest, to the extension of bee-keeping. Nor is this at all surprising, when you consider what serious and even fatal consequences result, in some cases, from being stung. It is no mark of wisdom to despise a bee-sting. To do so is to display ignorance, inexperience, or foolhardiness. No person who has been stung in a highly sensitive part of the body, when the poison injected has been peculiarly virulent, will pooh-pooh the affair. One such sting is enough to teach a lesson of caution that will last a life time. The wise course is to look a danger in the face and guard against it. Precaution can easily be taken if the habits of the bee are properly understood. A bee will sting only under two conditions exasperation or presure. The second of these conditions would almost seem to render stinging involuntary. If you press the body of a dead bee, you will find that the sting will dart forth with astonishing celerity and force. Squeezing a live bee is very much like touching the trigger of a loaded gun at full cock. A discarge is the inevitable and immediate result. There are a few simple rules the observance of which will reduce the danger of being stung to a minimum if not remove it altogether.

1. The first is to completely master the emotion of fear. No person should undertake to handle bees who cannot maintain a perfectly calm, self-possessed, cool and determined bearing, under all circumstances. Bees know by some subtle discernment, whether you are timid or courageous just as a spirited horse knows whether timidity or courage has hold of the reins. A show of fear is pretty sure to exasperate bees. They seem to resent being meddled with by a timid hand.

2. Gentle and quiet movements alone are safe and proper among bees. They are excessively nervous and irritable, and should be treated accordingly. All rough ways, all sudden jars, all hurried motions are to be carefully avoided. Just as you would make everything as pleasant and soothing as possible to a nervous and irritable human being, so should you act among bees. Especially should this rule be observed in opening out a hive, and performing any manipulations on the interior. To insects accustomed to a dark, perfectly quiet habitation, with everything firmly fixed and in a most orderly state, it must be a rude interference at best for a hive to be opened, flooded with sunshine, and put completely out of kilter. If they can reason, they should be made to do it in this wise: "Man is our liege lord, he has a right to control us, he means us no harm, it will be all right." In all but rare

and exceptional cases, they succumb to firm and gentle treatment, and soon form a habit of aquiescence in the bee-keeper's will.

3. It is well to avoid meddling with bees, when from any cause, known or unknown, they are excited. Sometimes it may be necessary to subdue them under such circumstances, but these cases are unfrequent. In any necessary interference with them, choose a time when all is serene, and they are pursuing the even tenor of their way.

4. When, from any unavoidable causes they become exasperated, a steady, decided course is absolutely indispensible. Stand your ground. Have smoke at hand and ply them with it until they become pacified. It is like a controversy with a passionate, self-willed child. If you give in, worse contests will follow, and the hive, like a spoiled child become unmanageable. Now and then a hybrid colony will have an ungovernable temper. If it cannot be subdued, it is better to sentence it to death at the end of the honey season, than to have the nuisance of an untractable stock on hand. Such cases are, however, extremely rare, and are generally the result of bad management. Spoilt bees, like spoilt children, show bad training.

5. The utmost care should be taken never to crush a bee, if it can possibly be avoided. Some bee-keepers are very careless in this respect. With a strong colony numbering thirty or forty thousand, what signifies the loss of two or three bees? Well, the slaughter of a single bee will sometimes infuriate that whole colony. To crush a bee is, as we have seen, to necessitate the thrusting out of the sting and the consequent emission of the poison. No sooner is the odor of that poison detected by the colony than the tone of their music changes from a peaceful hum to a warlike strain, their tails are elevated high in the air, and from every tail the poison odor at once emanates, which rouses and lashes up the war spirit, until the entire army is ready and anxious for the fray.

6. Whatever style of hive is adopted, it should be such as to facilitate operations among bees. The simpler the better, if it only answers all necessary, practical purposes. Complications and nice adjustments are to be avoided as far as possible. A hive easily opened and closed, giving ready facilities of access to all its parts, without much danger of crowding or crushing the bees, is the one best adapted for the purpose, whether it be covered all over with patents, or entirely free from that style of ornament.

7. Precautionary measures in the way of personal defense, and taming the bees, are worthy of adoption by all inexperienced bee-keepers, and by all, however experienced, who know themselves to be obnoxious to bees. Inexperienced bee-keepers are apt to make slips, to have accidents, and to lose presence of mind, so that however anxious they may be and usually are to prove their skill by handling their bees without protection, it is advisable for them to use a bee veil and gloves impervious to stings, for a time at any rate. In regard to the other class of bee-keepers, it is a well known fact that bees, as well as human beings, have their likes and dislikes. There are those who are bee-loved and there are those who are bee-hated. The sense of smell is very acute in bees. By this they are guided in the recognition of the fellow-occupants of their own hive, and in the rejection of the natives of other hives. There is little doubt that it is their keen sense of smell which leads them to take to certain persons, and to turn against others. The law of affinity which guides these little insects is not well understood, but that there is such a law is indisputable, and we must conform to it. Those bee-keepers are to be envied why are favorites with the busy little workers, and it is these who should feel called to go largely into the business, but those who are bee-hated need not on that account forego the pleasure and profit of keeping bees. They must prosecute bee-keeping under difficulties; but after all, some of the eminent apiarians have overcome greater obstacles than the dislike of their bees. Witness Huber, the father of modern bee-keeping, who made such wonderful discoveries in apiculture, and yet was a blind man. The wearing of a veil and gloves is an inconvenience, but it must be submitted to by those who have the misfortune to the objects of dislike to bees. It may be added that the use smoke as a means subduing bees, will often enable bee-hated persons to handle their hives without protection. Much judgment is needed, however, in the employment of smoke, as an overdose of it, or an injudicious use of it has a tendency to irritate the bees.

8. Finally, a word remains to be said concerning antidotes for bee-stings. It would be a long detail to mention all the remedies that have been suggested by way of curing bee stings. In a general way it may be stated that almost any alkaline application is good, though antidotes do not always have the same effect on all persons. Bee-keepers must judge for themselves, after trial of various remedies, what are most effectual in their several cases. Without having any interest in it except a benevolent interest in the relief of suffering humanity. I strongly recommended the German Bee-Cure advertised by Mr. Hawley, of Utica, N. Y. I can testify, along with many others, that the relief it gives is well nigh instantaneous, not only relieving the pain but preventing the swelling. Of course, like other antidotes, it may not operate alike on all persons, but thus far I have heard of no exception to its curative efficacy. I would suggest whether it might not be well for this Society to take means to have the remedy just named thoroughly tested; for assuredly, if we could say to the public here is an application which will take away all the pain and prevent the swelling from a bee-sting, we should present one of the strongest inducements to embark in bee-keeping that can possibly be held out. Take away the fear of being stung, or provide a perfect antidote, and many would become bee-keepers who now, acting on the principle that "discretion is the better part of valor," give the business "a good letting-alone."

Secretary Pope, of Indianapolis, said he had always been hated by bees, and yet he did not fear them.

The discussion was continued by Messrs. King, Benedict, Chapman and others.

SECURING SWARMS.

This topic was introduced by President Hoagland, who exhibited a wooden box, perforated with holes, and elevated on a pole. This, he said, had been used with great success in securing swarms.

Mrs. Ellen S. Tupper, of Iowa, took

ground against swarming. Greater yields of honey were obtained by the non-swarming system. Swarming could be prevented by the use of the Extractor, by keeping the bees well supplied with empty comb between the brood and the entrance, and in other ways familiar to bee-keepers who use large hives. She could not obtain half as good results from bees that were allowed to swarm.

An address on the "Adulteration of Honey" was expected from Mr. H. A. King, of New York, but that gentleman stated that he had mislaid his manuscript, and would therefore have to defer reading his paper till another session.

BUSINESS FOR THE EVENING SESSION.

The following committee was appointed to prepare business for the evening session: Rev. W. F. Clarke, H. A. King, Mrs. E. S. Tupper, D. L. Brown, A. Chapman, A. Benedict and J. W. Winder.

On motion, adjourned to meet at 7½ o'clock P. M.

EVENING SESSION.

The Association reassembled at half-past seven o'clock, President Hoagland in the chair.

Rev. W. F. Clarke presented the report of the Business Committee, as follows:

1. Queen-raising and drone preservation, and best mode of introducing queens into movable frames and box-hives.
2. Adulteration of honey. To be introduced by a paper from Mr. H. A. King.
3. Moving bees to other localities for wintering, or pasturage, suggested by the question, Would it be practicable and profitable to ship bees in the fall, by boat, from Eastern Ohio, to some point on the Mississippi, in Louisiana, to remain, say, until May, returning by rail in time for clover-bloom?
4. Best method of inducing bees to breed late in the fall. Is it wise to resort to it?
5. Bee-forage, with the special inquiry, Can bee-keeping, as a business, be successfully prosecuted in a locality producing a large amount of white clover, but no other source except locust and fruit bloom in the spring?
6. Wintering bees under glass.
7. Prevention of honey candying.
8. Suggestions to Business Committee of time and place of next annual meeting.

QUEEN-RAISING AND DRONE-PRESERVATION.

The discussion of the first topic was opened by Mr. Benedict, who was followed by Mrs. Tupper, Messrs. Chapman, Zimmerman, Anderson, and others giving a variety of views upon the subject under consideration.

Mr. King was not present, and the second topic, "Adulteration of honey," upon which he was to deliver an address, was passed over.

MOVING BEES.

The third topic, "Moving bees to other localities for wintering," was taken up.

Rev. Mr. Clark said he could not speak on the subject from personal experience, but he knew that bee-keepers in Europe moved their bees from one locality to another, in order to give them the benefit of favorable climates.

Mr. Chapman said he had no experience in moving bees South in winter. He did not think it would pay.

Mrs. Tupper gave the experience of a friend (Mr. Brown) who bought 100 hives in Mississippi during last winter. As soon as the summer harvest commenced the bees were brought back to Iowa in good condition.

Mr. Brown said that bees wintered in the South consumed more honey, but they would breed a month earlier. Mr. Mitchell had transferred a lot of bees from the South last spring at a small cost.

Mr. Pope—At a loss of about $400.

Mr. Benedict said that bees required more honey in the South than in Canada.

Mr. Clark thought that by keeping them in a semi-torpid state during winter they would do better.

Dr. Rush said it was not a good plan to feed bees, as they would consume twice as much honey as they would if permitted to help themselves.

BREEDING IN THE FALL.

The fourth topic was, "Best method of inducing bees to breed in the fall."

Mrs. Tupper recommended the introduction of a new queen in the hive. This was a good method, as applied to her locality (Iowa). There the Italians are so eager to gather honey that they will fill every cell, and the queen has no room for breeding. When fall comes we have all old bees and no young ones. At this stage the combs should be emptied with the Extractor, that the queen might have room for eggs. It would be well to introduce a young queen in the fall, so as to get more brood.

Mr. Chapman said in his experience it was good to exchange old queens for new ones.

Mrs. Tupper, by permission, read a letter from J. P. H. Brown, a prominent bee-keeper, of Augusta, Ga., containing some excellent suggestions in regard to the organization of associations. It was referred to the Business Committee.

Mr. Clarke moved that intervening topics for discussion be passed over, and that the last, "Suggestion to the Business Committee as to time and place of holding the next annual meeting," be taken up. Carried.

Mr. Clarke said that wherever these annual meetings were held the attendance was largely local. It seemed impossible to get a fair representation from all sections. He was in favor of a reconstruc-

tion of the Association, on the basis of branch or auxiliary societies, which branches could annually, or at less frequent periods send representatives to the National Association. For the next annual meeting he was in favor of Chicago.

Dr. Rush said he would withdraw his suggestion of St. Louis, and unite with his friends on Des Moines.

Mrs. Tupper, of Des Moines, said that though she would be glad to welcome the Society to Des Moines, she feared the expense of going there would be too great for most of the members.

After considerable discussion of the subject, the matter was handed over to the Business Committee.

Adjourned till Thursday morning.

SECOND DAY—MORNING SESSION.

The following Publishing Committee was appointed: Mr. Pope, Dr. Rush and Mrs. Tupper.

The report of the Business Committee, giving topics for the morning discusson, was presented, the first being the question of "Adulteration of Honey."

Upon this subject Mr. King, of New York, read a paper, from which we extract the following concerning the effect of adulteration upon the honey producing interests of the country.

"A leading honey merchant of New York, who bought largely of the comb honey of Mr. Harbison's great 100,000 pound honey crop, said (and I have it from his own lips) that he refused to purchase the extracted honey, because he could furnish a better article by making syrup of white sugar and adding to flavor the mixture, one gallon of honey to every seven gallons of this syrup, costing only eight or ten cents per pound. He said if the syrup was heated to the boiling point, so as to dissolve all the particles in the sugar, the mixture would not granulate. Others claim a secret of their own by which they prevent granulation.

"But what will be the effect upon the price and sale of extracted honey when the dealer increases every 1,000 pounds to 8,000 to flood the market? If one-third of the 300,000 pounds referred to be treated in this way 100,000 pounds would be increased to 800,000 pounds, which would no doubt glut the market and greatly reduce the price. But this is not the worst feature in the case. Dealers in New York and Chicago have resorted to the use of glucose as a substitute for sugar syrup, as others have done in the manufacture of golden syrup. Glusos is a liquid which is often made as clear as water, and of about the consistency of honey, though less sweet than even cane sugar.

"Messrs. A. Boyer & Co., whose address is Auberville, per Paris, France, are large manufacturers. Glucose is found in the juice of several kinds of fruit, but it is usually manufactured from starch or dried grapes. But will the evil stop here, or will glucose, which costs from six to eight cents per pound, soon become too expensive, and acids be used in its stead? Then will extracted white-clover honey go begging for purchasers, and even buckwheat honey, though darker, and therefore commanding a better price, will be of dull sale, as these ingenius dealers can color their mixtures to look like the darkest buckwheat honey."

As to a remedy for the evils complained of, the speaker said:

"Perhaps apiarians will conclude to dispense with the extractor and think to remedy the evil by raising and selling only bad honey or comb honey in the frame. But these dealers have already found a remedy for such a contingency. They now sell most of their—how shall I call it—no, their mixture in glass jars, with one of more narrow strips of honey in the comb, which occupies the little space in the jar, but looks well, and sells the mixture with which the jar is filled.

"I can suggest no remedy but education. We must educate the people, and thus qualify them to judge between a pure and impure article. Apiarians must write on the subject, not simply for their journals, but for the city press, both secular and religious. While earth remains in its present state, evil men, as the Apostle says, shall wax worse and wore, but when Paradise is restored, that land flowing with milk and honey, these honey adulteraters shall go into their "own place, and trouble us no more."

Mrs. Tupper stated, after the reading of the paper, that she had frequent letters from Honey Dealers, wishing to purchase clean white comb.

After some further discussion, Messrs. King, Hoagland and A. Benedict were appointed a committee to draft resolutions expressive of the judgment of the association against the practice of adulterating honey.

The next topic of discussion was "Bee-Forage" and was debated at some length. Some of the members expressed themselves as in favor of buckwheat, others white clover, Mr. Hoagland, thought the forest was the great home of the bee. The richer the soil the greater would be the amount of honey extracted from the flower. The discussion as to the value of various flowers for "bee forage" was continued at some length, and was quite interesting. The sunflower, sassafras, the purple aster, and any quantity of flowers had their respective merits as honey plants thoroughly demonstrated.

The third topic reported by the Business Committee was "The wintering of bees under glass." This was discussed at some length, and the experience of different members of the Convention related.

"The best method of preventing honey from candying" was next discussed at some length, after which the Association adjourned till 2 P. M.

AFTERNOON SESSION.

The Society met at two o'clock P. M. The first hour of the session was occupied in the exhibition of patent bee-hives, honey extractors, and some fine specimens of honey.

ELECTION OF OFFICERS.

At the expiration of the hour, the Pres-

ident said that the election of officers had been made the special order for three o'clock to-day.

The Society on motion, went into an election for officers, when the following gentlemen were named for President: W. F. Clarke, H. A. King, Seth Hoagland, Aaron Benedict, Abner J. Pope, J. W. Winder. The balloting resulted in no choice. Mr. King, who had the second highest vote, moved that the President be authorized to cast the vote of the Association for W. F. Clarke of Canada for President. The motion was carried unanimously, and Mr. Clarke was thereupon voted for and elected.

Next in order was the election of a Vice-President from each State and Territory. The following persons were chosen: Pennsylvania, Seth Hoagland; Ohio, A. Benedict; West Virginia, A. Chapman; New York, M. Quinby; Tennessee, M. Benton; Indiana, A. J. Pope; Illinois, F. Grabbe; Iowa, Mrs. Ellen S. Tupper; Ontario, Dr. Thorn. In the States not represented at this meeting, the present Vice Presidents will hold over.

Dr. L. Brown, of Indianapolis, was eleted Recording Secretary, and E. S. Hill, of Ohio. Treasurer.

Mr. H. A. King was elected Corresponding Secretary.

The reports of the officers of the Assosociation for the past year were read and approved.

Mrs. Tupper, from the committe appointed to make arrangements for a display at the Centennial in 1877, reported that the committee had arranged for space, &c., at the Exposition, and that everything bid fair for a successful display. On motion, Seth Hoagland was added to the committee.

The Association adjourned till 7 o'clock P. M.

EVENING SESSION.

The Association met at half past seven o'clock, and Mr. Seth Hoagland, the retiring President, delivered his valedictory address, in which he said that he left the chair of presiding officer not in sorrow, but in a joyful mood.

Mr. W. F. Clarke, of Ontario, Canada, President elect, was then introduced, and spoke as follows:

Ladies and Gentleman of the North American Bee-Keepers' Association:—I thank you very sicerely for the honor you have done me for the second time in electing me to the Presidency of this organization. As the retiring President observed, in the brief remarks which he made, the times are stringent and there have been unusual difficulties in getting up this meeting, and in view of the difficulties which the retiring President has experienced in this respect I hope we shall draw up a resolution at some later stage of our proceedings expressing our appreciation of his course and our thanks. I am not vain enough to suppose that I owe my elevation to the presidency of this society to my knowledge of apiculture or to my unprecedented success as a bee-keeper. I think I owe my present position to two causes. First, that I have taken an interest in the Society from the outset, and secondly, that I have not had any particular selfish interest in connection with this Society. This Society in its start encountered peculiar difficulties, which rendered it rather surprising that it should have weathered them all and come out into smooth open waters, as it has done.

It is true that this is a day of small things in this organization, but we have made considerable progress. We have, I think, escaped the greatest danger that menaced us at the outset—the danger af the Society being made use of for other than broad disinterested purposes. Bee-keeping has made considerable progress during the history of this Society. It has advanced out of what might be called the "slough of patents." Many lessons have been learned about patents which will never be forgotten.

Every business is likely to be traded upon by King Humbug. P. T. Barnum has said that mankind like to be humbugged. Whether they like it or not, they submit to it.

An educated physician once met a quack and said: "How is it I have so small a practice and you have so large a one?" "Well," said the quack, "how many people who go down street are really wise people?" "Well," said the educated physician, "perhaps one in fifty that pass our office are wise people." "Then," replied the quack, "you get the one and I get the forty-nine." [Laughter.]

Whether the same philosophy does not apply to a good deal of the quackery we have had in connection with bee-keeping I leave you to judge. We have some principles pretty well established, which I think ought by this time to be pretty well understood. Leaving the movable comb principle and the air chamber, and one or two other conditions of successful bee-keeping out of sight, the rest is not of much account. Those who like complicated hives with all sorts of fixings, can have them. We know bees are not particular, and will store honey in rough hives properly constructed as well as in the most finely adorned palaces ever constructed. We have learned a good deal about moth traps and other things, and those who have traded in this kind of apiarian Empyrean articles have shrunk away, and our society has done much to consign them to the grave they have chosen. Empyrean patents have been ignored, and this society has done much to spread abroad throughout the land the fundamental principles of apiarian culture. Although the society has not done as much as some hoped for it, it has done much. It has brought bee-keepers together and awakened an interest in the science of apiculture, but what we want in this society is to gather together all the intelligent apiarians of this country and make this a grand institution in the diffusion of a correct knowledge of apiculture. To do this we must find some means of bringing together our best apiarians.

I do not undervalue the influence of this society in the place when it meets from year to year. In all the different cities where its various sessions have been held an interest has unquestionably been awakened. But we want to do good upon a large scale.

This society shall embody the wisdom of all of our apiarians upon the subjects submitted to us. Some measures ought to be taken by which we can accomplish this result than by organizing auxilliaries to this society in every county, State and neighborhood. Pecuniary difficulties operate undoubtedly against our having as full a representation as we should have at the meetings of this society. There are many to whom apiculture is a sort of side business. Some go into it because of the interest they take in the subject. I have never been so situated that I could keep bees with an eye to profit. Yet, I have been well paid for my trouble in the interest in the pursuit. Let an interest be awakened in the minds of the public by lectures and all other legitimate means.

In conclusion, the speaker said the society had a great work before them, and it could be accomplished if they only did their duty. The rubicon had been passed, and this Association had a great future before it, and the speaker could only say that in the position he had been selected to fill, he would, with the assistance of the society, endeavor to promote the interests of apiculture on the North American continent.

RAISING QUEENS.

The first topic of discussion for the evening was then taken up. It was: "The Selection of a Place to Raise Queens."

Mr. A. Chapman had had the subject on his mind for some time, and thought it was worthy of notice.

Mr. Benedict thought the way Queen raising was now carried on was very uncertain, and more attention should be paid to the subject.

The topic was then discussed at considerable length, the details of taking care of queens and managing them as shown by the experience of a large number of persons being given.

Dr. Rush read a recipe, which he had in his possession, to prevent honey from candying and souring.

THE NEXT MEETING.

Mr. King, from the Business Committee, reported in favor of Toledo, Ohio, as the place, and the first Wednesday of December, 1875, as the time for holding the next annual meeting. The report was adopted and the time and place fixed accordingly.

The following committee was appointed to report on the question of breeding pure Queens and stock: Messrs. King, Benedict and Mrs. Tupper.

The Association then adjourned.

FRIDAY MORNING.

A discussion was held on the spring management of bees. This necessarily involved the subject of wintering, it being generally agreed that stocks well wintered, could be brought through the spring with comparative ease. Some advocated cellar wintering, and others out-door wintering, but the importance of having strong colonies, was admitted on all hands. Warmth, stimulation by feeding, to make them strong early, were considered the chief points of spring management.

The subjects of extra combs and a standard size of frame were discussed together, a paper being read by Mr. King advocating the adoption of a standard frame. After several had spoken on these topics, it was resolved to lay the matter of a standard frame on the table until next annual meeting, then to be taken up at an early part of the session, and that papers be solicited in regard to it.

A paper sent by Mr. A. J. Murray of Memphis, Tenn., was read by Mrs. Tupper. It consisted chiefly of extracts from Purches's work on bees, published some 300 years ago, and was calculated to show that more was known about apiculture by that old author, than is known by many modern bee-keepers.

A communication from J. P. H. Brown of Augusta, Ga., recommending certain experiments in bee-culture to be made under the direction of the Society, was referred to the Business Committee, who reported recommending that such experiments be conducted by individuals rather than by the Society, which report was adopted.

ADULTERATION OF HONEY.

The Committee on Adulteration of Honey presented the following report, which was unanimously adopted:

WHEREAS, It has come to our knowledge that certain honey dealers in New York and Chicago are using large quantities of sugar syrup, and glucose, with which they mix a small quantity of honey and sell the whole for pure honey, thus making 1,000 pounds of honey sell for from 3,000 to 8,000 pounds; and

WHEREAS, We, the North American Bee-Keepers' Society, in annual session assembled, believing that the adulteration of honey can tend only to the ruin of the honey producing interest of the country by overstocking the market, reducing prices, ultimately lessening the consumption, and dishonoring our calling as well as their own; therefore,

Resolved, That we hereby express our unqualified condemnation of the course of these dishonest dealers, and hereby notify them that they must cease to adulterate honey and assure us of the fact, or, for self-protection, we shall be compelled to publish their names and expose them to deserved contempt. The Committee advise honey producers to sell no honey to dealers guilty of adultering. The Committee recommend the appointment of a Standing Committee authorized to communicate with honey dealers, and take such action as they may deem necessary to carry out the spirit of this resolution.

H. A. KING,
E. S. TUPPER,
HOAGLAND,
BENEDICT,
W. F. CLARKE,
Committee.

The Chairman of the Business Committee

reported the following resolutions which were unanously adopted :

WHEREAS, This Society has sustained a great loss since its last annual meeting, in the death of the late Dr. Hamlin, of Tennessee, one of its Vice-Presidents ; we desire to put on record the high estimation in which the deceased gentleman was deservedly held by his fellow agriculturists for his thorough knowledge of the science and art of bee-keeping ; the zealous interest manifestated by him in this organization, from its inception up to the time of the annual meeting, showing before his death, at which he worthily presided in the unavoidable absence of the President ; and finally for his upright character, urbane manners and kindness of heart. Honor to his memory, and peace to his ashes !

Resolved, That the thanks of this Society be, and are hereby presented to Ex-President Hoagland, for the interest shown by him in the prosperity of this organization, and for his efficient, courteous, and praiseworthy occupancy of the chair.

Resolved, That the thanks of this Society be tendered to the railway companies and hotel keepers, who have encouraged attendance at this meeting by a reduction of their usual rates.

Resolved, That this Society, having received in every city where it has met, the most polite and kind attention from the local press, is pleassd to find the members of the fourth estate in Pittsburg not a whit behind the fraternity elsewhere ; and for their patient attendance, courteous behaviour and excellent reports of our proceedings, we desire to tender them our best thanks.

Resolved, That any and all of the officers of this Society are hereby authorized to ornanize auxiliary or branch socities, membership in which shall carry membership in this society ; provided always that the membership fee shall be one dollar annually, and that one-half thereof shall be payable into the treasury of this Society.

A communication was read from the firm of Jesse H. Lippincott & Co., of Pittsburgh, claiming to deal in genuine, unadulterated honey, and inviting bee-keepers to deal with them.

A standing committee, consisting of Messrs. King, Benedict, and Mrs. Tupper, was appointed to arrange a system of premiums for Italian queens and full colonies, for the next annual meeting.

A committee of local arrangements for next meeting was appointed, consisting of the Secretaries, Messrs. Day, Zimmerman, and Smith.

After some routine business and informal discussion on one or two points not thought necessary to be embodied in the resolutions, the subject of publication of the proceedings of the Society was taken up. The Secretaries could not engage to prepare a report in time for the December Bee Journals, and as Dr. Rush volunteered to furnish an abstract of the discussions in time for the December journals. The Dr's generous offer was thankfully accepted, and the Society adjourned to meet in Toledo, O., on the first Wednesday in December, 1875.

☞ Since the foregoing Report was "in type," we have received another from Dr. Rush, Simpson's Store, Pa. From it we select such portions as was not elaborated in the former Report.

This annual meeting is reported as one of unusual harmony and interest, which must result in good, not only to the members present, but to the bee-keepers at large whom they represent.—T. G. N.

QUEEN REARING, DRONE PRESERVATION AND BEST METHOD OF INTRODUCING QUEENS.

Mr. Benedict—I generally have a hive that holds a half barrel, such a hive keeps a great many drones, though large hives keep drones until late or very cold weather, while small colonies will kill them as soon as the honey season is over if they have a fertile queen. I am generally successful with this kind of a hive and they fly out strong and seem to enjoy themselves and fly finely. Large hives also raise drones two weeks earlier, and they are better ones and more active. To introduce queens, put them right in. I sometimes wait a day and sometimes wait longer. I make no difference between a frame or box hive. I use a drum box, take old queen out and kill her, take esence of cinnamon in my mouth and wet them completely and put the queen in the top of the hive and let her go down among the bees. Sometimes I cage the queen and put her between the frames and leave her twenty-four hours, then I go to liberate her. I see whether the bees are inclined to sting her, and if they are, I shut the hive and go back the next day again, and they generally are all right.

Mr. A. Chapman—I generally introduce same way as Mr. Benedict does ; but another way is to put her in a wire cage and put in a cork of comb, not very thick or loosely, cut a comb the size of the hole in the cage and stick it in, they find the queen caged and loose her by eating the end out and liberating her. I never loose one queen in this way.

Mr. Zimmerman—When I introduce her I take her to, and put this comb and honey in the end of the cage and to make it more sure, put in a lot of strange bees at the same time ; and thereby disorganize the colony and they are less disposed to kill the queen.

Mr. Chapman—I take a comb of bees from another hive with brood in it, and a strange queen from another and put them together and they do well.

Mrs. Tupper—Queen raising in the most important of all. Each one must understand it well, the way I take is one that any one can follow. Take the best queen you have, a good hive and queen, put her in a good colony in the fall for spring operations, stimulate by feeding early, have them strong in the fall and spring both, also feed in the fall; no difference where, so it seems to come from the outside of the hive. Go to the colony (early in the spring,) take out the queen, put her in another hive, disturb them as little as possible, put in frames in another hive with enough bees to keep them warm, get four frames in another hive, move the hive and put it in the place of the old hive, and if too many leave the old hive change them and continue; in this way you can get ten nuclie, and as soon as it is warm you will have queens. As soon as one comes out, put in another cell and continue this rotation, cage or change queens between ten and two o'clock and you can have from ten to sixteen nuclei all the time without much care. Mark the entrance for queens before they fly.

Mr. Benedict—Those large hives, I would say, which have drones, that they fly early in the day, stop in the drones early, and put in a teaspoonful of honey in the big hive to feed and excite the bees and drones. Open the hive about five o'clock and liberate the drones and young queens and they will come right out and fly finely after all the rest of the drones are done flying.

Mr. Chapman—I keep my hives large and strong, and in the spring of the year take out a few drone combs and put them in two hives that have no other comb in their hives and kill all the drones except those in the two hives. I killed all my drones in this way last spring. Have practiced this for a long time, and my best success has been with large hives to keep drones.

Mr. J. S. Hill—I have introduced queens and have been successful; loose one once in a while. I do not like the method of wintering bees, they do not clean off or the queens either. When you want to change queens catch the old one, put her in a cage, raise the bottom or open the hive, put the old queen in the cage, on the bottom of the hive, and in two days if they are quiet, change the old one for a new one, and put her in the same place, stop the cage with bits of comb, getting your comb from uncapping honey. In two days after, examine to see if she has been liberated, if they have not let her go, then uncage her.

Mr. Benedict—I would have my queen to breed from, in a good strong hive in the spring and as soon as the weather is warm enough, change her to another good hive and on the 9th day I would cut out the queen cells, get a nucleus hive and put in it frames of honey and brood capped, with a few bees, next day put the nucleus in the place of the old one, have plenty of drones in the old hive.

Mr. Anderson—When I raise queens I do the same way, but when I put my cells in (as soon as they are capped) I put them in a wire cage and leave them an exit.

Mr. R B. Price—I first catch old queen and kill her and put her in the cage with the new queen and succeed well, keep them in twenty-four hours. As soon as the bees find their queen dead they will readily accept the new one.

Mr. Hill—I generally have bees two weeks before I distrub them after introducing a queen.

Mr. Zimmerman—I have lost queens by being killed after they had been liberated two days. To make doubly sure I would take out the bees and put the queen in, and then let the bees go in slowly and they think it a strange place.

Mr. Sweitzer—I cannot succeed in that way.

Mr. Benedict—Be sure and conquer the bees first, by smoking them well, then kill old queen, pnt the new one in a cage with comb stoper. In forty-eight hours see if she has been liberated and if not let her be in the cage one week, then pull out the cork and let her go.

Dr. B. W. Rush—I have tried the plan with a comb stopper and have succeeded well.

BEE FORAGE.

Can bee-keeping as a business be successfully practised in a locality producing a large amount of clover, but no other source except locust and fruit bloom in the spring?

Mr. Chapman—I will give an idea how to get honey from clover. I have been a farmer. Take a field in a good state of cultivation, sow it in clover, and when it has fairly covered the ground it will draw a moisture from the surrounding land. I do not plow it, but add more to it; this field will deposit much more evaporation than the surrounding, or poorly cultivated fields.

Mr. Hoagland—I don't think I am prepared to express myself, we cultivate from 20 to 60 acres of buckwheat of the black variety. The gray superceeded the black, and then in three years I got the silver quill. Two years ago it produced more than it has since. Sometimes clover is the best for honey and sometimes basswood, but now clover is the honey resource as basswoon has failed by being destroyed. I wish to say that buckwheat

is not so exhausting as some think. I had a new field in for 16 years, and an adjoining field only two crops, then sowed with timothy, and clover grew finely. Buckwheat does not exhaust the soil as it draws most of its dampness from the air.

Mr. Benedict—In my locality they do well on clover and locust; the idea I would go on would be to select a locality where it is good to secrete honey. Our honey ceases at the end of clover time, the season lasts about five weeks. Linn is the best that we can cultivate—easily transplanted—I set out a great deal of it last spring, it did well; set out as soon as the frost is out of the ground; blooms last of June with us.

Mr. Zimmerman—I discover in my experience more honey along the rivers, and bees do better on bottom timber. We have clover and basswood. I would recommend that all would cultivate catnip. Basswood is abundant in my grove and I cultivate some of it, it is next to fall flowers. Boneset, golden-rod (three kinds of it), the low sort is the best. Use extractor in summer, and get winter stores from fall flowers, and sometimes when these begin I make three hives of one.

Mr. N. N. Betsinger—Asked if sowing two acres of catnip will pay.

Mr. Zimmerman—I think it will.

Mr. Benedict—I think it will pay better to sow white clover where the ground is moist.

Mr. Betsinger—Two years ago I sowed Alsike, and it came on last June. In passing through the Alsike clover, saw bees swarming on it, (sowed it on low damp ground) while white clover did not do near so well.

Mr. Zimmerman—Which does the best?

Mr. Betsinger—Alsike is my experience.

Mr. Benedict—Bees work equally as well on Alsike as on white clover, think Alsike will secrete more honey.

Mr. Abner J. Pope—I went to the Shanendoah Valley, Va., was there from June 21st to Oct. 30th. I saw "blue thistles" in bloom, and some told me it was their best honey source; some fields were full of it, and was troublesome; in another field by the side of it I saw white clover. Thistle is the best honey source and does not hinder cultivation, it enriches the soil and never fails to produce honey. I also saw it in Maryland.

Mr. Clarke—I would say that there is a Canadian thistle and you are welcome to all of it.

Mr. J. W. Sherif—I notice growing a species of clover, it grows 3 ft. high, and I saw as many as twenty bees on a flower, both black and Italian bees. Blooms last of August.

Mr. John Stevenson—I planted sunflower for ornament and my bees done well on it this summer.

Mr. Rush—I planted plenty of it and never saw a bee on it only for pollen.

Mr. J. Winder—A friend recommended it highly for honey.

Mrs. Tupper—We need a locality which has locust, clover and fruit bloom. This year my bees did well on fruit bloom, but it does not occur one season in ten. We should arrange to have our bees ready for the honey harvest. I would begin to rear brood freely, early. I would give them empty comb in the middle of the hive and get brood in it, and have the hive strong, and may have as high as two bushels of bees; continue to feed and keep the queen going. Everyone should study their locality. When I use empty comb I keep them from swarming.

Mr. Betsinger—What kind of a hive do you use?

Mrs. Tupper—I use a plain box hive with frames 12x12. Alsike clover when sown in a good locality is the best I have, better than white clover.

Mr. King—I think if I should go into the honey gathering again I should look to fall plants, such as golden-rod and aster, the golden-rod is rather yellow but aster is much clearer honey. All through Ohio we don't have much fall blooms, and even east of it.

Mr. Chapman—I am of the opinion of Mrs. Tupper, I can control swarms by giving empty comb.

Mrs. Tupper—Many persons have more fall pasture than they think they have, if they would take the honey out and give them a chance of gathering it.

Mr. Replogle—What is the difference of the same kind of flowers in different localities and same climate?

Mr. Betsinger—Where I am located now in Onondaga Co., N. Y., we have all kinds. I saw basswood so plenty, that if you would shake a tree it would fall in profusion and daub you with honey, it lasted one week each year. Last year I got all my surplus honey from teasel. It is not best to raise over three acres of it, it is a valuable plant, and I would give up bees if I had nothing better than clover.

Mr. J. E. Moore—I think, with me it would pay to keep bees on white clover, near Rochester, Pa. I got 107 lbs. from one hive from May 20th to July 4th.

WINTERING BEES.

Mr. Benedict—I have a plan better than glass. I have a box made square to put on top of my hives and the bees go up in the top of my hive to fly and fall back on the frames, have a quilt over the frames

the box a foot high, when feeding it is necessary for bees to fly and discharge their focces.

Mr. Zimmerman—My experience at Cleveland, Ohio, was, put the bees in a room and place a mosquito-bar between them and the window, so as to keep them from the glass, give them light in the room by the window and they cool off, fall down and go back, do not put them in until after a cold spell in March, and then take them in a room and feed them up. I intend to continue the experiments, the one made was in 1873.

Mr. Benedict—I can feed my bees by taking them in a room.

Mr. D. L. Browne—How many times have you tried the experiment? we never put them in winter quarters or even in a room.

Mr. Benedict—I think it a good plan, I have had bees cured of the disease in that way, received them when they had the disease mildly and they recovered, and came out in good condition from the room. I can fly a good many in that way, if the weather is cold for a long time, I bring them in for a flight.

Mr. Stetsers—Will your bees keep quiet.

Mr. Benedict—When you put them in they will take their flight and fall down (in the top of the hive) and crawl back and do not seem to be much uneasy.

Mr. J. W. Parker, Chicago—A friend keeps his bees in a room, well warmed and ventilated, and they consume a good deal of honey and he expects to loose money.

Mr. Rush—Mr. Benedict, what do you cover hives with, what you put on your hive to give them a flight?

Mr. Benedict—I cover the boxes with screen wire.

Mr. Rush—If you put on glass they will fret too much, and if you put on wire its too cool and besides they will worry to much to get out. I put on a good article of muslin (brown) and they have plenty of light and cannot see out and thus save them so much uneasiness to get out.

Mr. Zimmerman — My musquito-bar keeps the bees from coming in contact with the glass.

Mr. Rush—It's too open and they see out too much.

Mr. Harrison—Mr. Benedict; will not the bees fall down and get daubed on the frames?

Mr. Benedict—A few times it may occur, when I let them fly in February they don't daub themselves, but in some days in March they will daub themselves some, I let my room cool off gradually, to induce them to go back. I have fed up my bees in the fall, fed on white sugar syrup.

Mrs. Tupper—I don't want the idea that we are to winter bees this way, but must feed up in the fall and you have no more trouble, this talk is only applicable to weak colonies which have been neglected.

PREVENTION OF HONEY CANDYING.

Mr. Pope—I took honey out and put it in a cold place and it would candy, bring it back and it would become fluid again. Keep it in a warm, dry, dark place and it will keep a long time.

Mr. Chapman—That is my experience.

Mr. McLane—What causes honey to become thin.

Mr. Clarke—Souring or ferment causes it to become thin.

Mr. Betsinger—My experience in keeping comb honey is this. I keep it in the cellar and it would get thin and run out. I moved in a thin walled framed house, with tin roof, and when the weather gets cool I build a fire in the room and the honey becomes thicker instead of thiner.

Mr. Zimmerman—I had a few barrels of honey, some were air tight and some not, the one air tight did not candy and the other did.

Mr. Betsinger—A neighbor extracted some honey and bunged it up tight and in two months it was solid.

Mr. Zimmerman — We extracted a barrel of honey, bunged it tight and left it some time, opened it and took out some and it was all right, shut it up and looked in a month and it was solid.

Mr. Betsinger—Will honey air tight, keep longer in the dark than in the light.

Mr. King—I understand that there is a man here who has a receipt for keeping honey, will he make his receipt, and I see he has offered to, in the AMERICAN BEE JOURNAL?

Mr. Rush—I have been experimenting with the receipt and it has succeeded well so far, and as soon as the terms are complied with in the JOURNAL I will let up.

Mr. King—Some one sitting by me told me to ask for it, but I see the joke comes on me for the queen.

THURSDAY AFTERNOON.

Pres't Hoagland—There will be one hour given to exhibtion of articles pertaining to the apiary.

Mr J. E. Moore exhibited his sectional hive.

Mr King exhibited Barker & Dicer's sectional honey box and added a few words on their hives. Also exhibited Mr. Quinby's bee smoker for quieting bees; it works by a bellows.

Mr. J. W. Winder, Cincinnati, Ohio, exhibited his honey extractor No 3 *Queen City* with stationary can, also his No 1 with revolving can, and gave manner of using both.

Mr Hoagland exhibited annual herb called "Blue Thistle," same as Mr. Pope referred to.

Mr. Geo. Hardesty exhibited his "*ne plus ultra*" hive, very empyrically and his remarks and hive attracted a good deal of notice, and criticisms were freely offered and the hive condemned because of the unnecessary space between end of frames and hive.

SELECTING QUEEN RAISING LOCALITY.

The advisability of selecting a locality where queens may be raised by a committee appointed for that purpose, and save importation.

Mr. Benedict—There is so much risk in raising queens and so many queens are impure. I believe there are impure bees in Italy, in some localities, but in others they up the standard of purity. I do not like to say much on this subject.

Mr. Browne—I am called on, but cannot say much; will wait to hear from others.

Mr. Hoagland—I think it would be better to appoint a committee to take the matter in charge, and after due consideration report at our next meeting.

Mr. Chapman—I agree with Mr. Hoagland and put it to get the mind of the Convention.

Mrs. Tupper—I imported queens ten years ago by Colvin at a cost of $50 each. I imported by Dadant and lost heavily. I have imported since through friends and have done better. But I think we have better queens in this country than in Italy. I sent queens to a man in Germany and he replies that they are better than those he gets from Italy. I think there is danger in importing of getting a taint of black stock as they may have mixed some of the Egyptian blood in them. It is like importing cattle and sheep, they have improved so that they are sending them back to where they came from. I have got fine queens from both North and South Italy.

Mr. Chapman—I would earnestly recommend, that in sending queens, you put in comb from the hive from which the queen was taken.

Mrs. Tupper—There is not the least difference to me.

Mr. Chapman—I think they should not take old comb, that is, comb long out of the hive.

Mr. King—There are persons advertising queens of both imported and home breed as breeders of the same, and at the same time do not own a hive of bees. I travelled in Europe and stopped in a German apiary and found no pure stock, and that same man was sending queens to this country. I stopped with another man and found five stocks of blacks. In Italy I visited another apiary and one that advertised largely in Europe, and had not a pure colony. It is a shame, a burning shame. We ought to issue a diploma to the old queen breeders who have long been successful, and those who have a good locality, the one who has thorough experience, the one who keeps his bees all right. Select a number of queens and raise queens from them, and select queens to rear drones from only. In raising queens, as I pass over my apiary, I find drones just hatching in a comb, and place this comb in a hive which has a young queen in and *vice versa* with the queens. To keep drones in working with my bees one day, late in the summer, I found a hive with no queen, and the drones when drummed out came back in large numbers; and if they are excited they will attract others—throw the bees out, raise the excitement and you will have a fine lot of drones.

Mrs. Tupper—This is a free country and everyone has the liberty of buying where he wishes, and no diploma will control the queen trade.

Mr. Anderson—If our stock continues good we keep it, if not, we turn it off, some queens are more prolific and workers more industrious, and when we find a good producing hive keep them, and if we find them poor, kill the queen; but how to get good drones is the question.

Mr. Clarke—Believe giving diplomas impracticable. Let every one get their own diploma. If this subject is brought up to the right pitch we must pay a good price for queens.

Mr. King—Every one knows that premiums have been paid all over the country. Give premiums to persons for extra queens. I move that a committee of three be appointed to get up resolutions in regard to it. Premium should be given.

Mrs. Tupper—I have attended my State Fair, and it gave high premiums for the best black and Italian queens caged. What did it amount to? They could tell nothing by the queens: they must see their workers. It is the wrong time of the year to handle bees, when the Society meets.

Mr. King—I can tell a good queen anywhere.

Ex-President Hoagland, in the chair.—There are many present who wish to hear Dr. Rush. I understand that he has some means or a recipe for keeping honey or syrup. I am informed that the Dr. has consented to favor us this evening. Will he please to do it now.

Mr. Rush—I have a receipe for keeping syrup from souring or granulating, also to keep honey from souring. I cannot say that it is a certain specific; not at

all, but can truthfully say, that as far as I have experimented with it, it has not failed a single time. I believe it will succeed in r majority of cases. I have given it to Messrs. J. S. Hill and G. W. Zimmerman to be tested, and given them special directions, and if they succeed with it, in a majority of experiments, then I expect pay for it, and will leave each one to be guided by conscientious duty. If it fails I do not want anything for it.

The following is the receipe: "Flavoring Extract of Lemon," "to one gallon of syrup or honey add one teaspoonful of the extract" more may be added with safety. Do not add until syrup or honey is cool. It gives a fine flavor. Stir gently.

BEST METHOD OF SPRINGING BEES.

Mrs. Tupper—Best way to keep bees through spring is to winter them right. One says he went through finely on my plan. I take my bees out of the cellar in the night before I expect them to fly, and about the time I want to commence to stimulate, bring them out quietly. If you take them out on a sunny day, they come out and fly too sudden and many are lost, when it is warm enough I begin to feed and as soon as safe I examine them and generally find brood, also feed rye meal as long as they will take it and as soon as they have plenty of brood. I open the hive and give an empty comb place in the middle of the hive, keep quilts on hives so as to protect the brood. I would rather have bees out than in a cellar, if not frost proof. But to keep them out doors, set a store box around your hives and fill in with chaff or manure and leave the entrance open. Bees that are in a cellar must not be disturbed at all and left until time for setting out in the spring for when they are disturbed they consume more honey.

Mr. Benedict—Bees consume but little honey from 1st Dec. to 1st of Feb. but after that they consume a good deal, for brood rearing requires much more feed.

Mr. Chapman—I cool my cellar before I go into it to see my bees and do not disturb them, I carry them out in March to fly, and if the weather gets too cold I carry them back. I feed syrup warm and get water from a brook to make syrup with, also feed rye meal.

Mr. Betsinger—Let your bees be quiet in their winter quarters. I have had experience in feeding syrup, and find comb honey the best to winter on. I winter on summer stands, I find a cluster of bees 4 inches thick will not freeze. I open a hive on a cold day and out come the bees quite active to meet me. I put a quilt on the frames first. I put on a paper about 1st of April. As soon as warm enough and brood commences, I put in empty comb in middle of the hive and soon find plenty of brood. I find we must keep them dry.

Mr. King—Read a paper on the coming "Frame."

Mrs. Tupper—I never have any trouble in securing comb when I have plenty of bees, and the weather favorable. Put a frame in the middle of a brood chamber in the night when honey is plenty, sometimes put in 3 in a day. I dont think it pays to build comb, I would not build it for less than $5.00 per comb, 12x 12. I am in for a standard frame and that they be 12x12.

Mr, Benedict—I breed queens for sale and not for honey. I put frames in middle of the hive at night, and have got 3 frames of comb in a day. I attack great importance to a tight fitting frame and have them fit tight on the sides of the hive.

Mr. Rush—I obtained 4 nice frames of comb by feeding syrup just at the close of the honey season. Feed 10 lbs. of sugar, one of sugar to one of water, feed in the evening.

Mrs. Tupper—I tried some 20 times by feeding to get comb and did not succeed but 3 times, and then they would soon cease taking the syrup.

Pres't Clarke—I think square frames good in the north, in the south a shallow one. In Canada we need a deep frame. I have no experience with shallow frames. I find extreme difficulties with light fitting frames in the fall of the year, and I cannot use a Quinby Hive, find it produces a bad temper among the bees, I would give up something else in place of tight fitting frames.

Queen Committee recomends each one to conduct private experiments.

COMMITTEES.

Committee on Arrangements—G. W. Zimmerman, A. Benedict, J. L. Parker.

Publishing—A. J. Pope. W. B. Rush, D. L. Brown.

Centenial—Mrs. Tupper, W. F. Clarke, H. A. King, Seth Hoagland. J. W. Winder.

Queen raising—Mrs. Tupper. H. A. King. A. Benedict.

Adulteration of Honey—H. A. King. A. Benedict, Seth Hoagland. W. F. Clarke.

What Killed Replogle's Bees?

In the October number of the JOURNAL, I see an inquiry from Mr. Replogle of Indiana, wishing to know the cause of "bees dying at this time of year," (August and September?) I have been watching affected hives closely for three years to ascertain the cause. If Mr. Replogle's bees are affected like mine, and if he has noticed closely he will have observed that

it is only the young bees that are diseased. They crawl out of the hives and die for weeks, until the ground is black with them, making attempts to fly, but not one in a hundred can rise, the very few that do fly have no power to guide themselves, cannot keep a straight course, but zig zag about and fall.

With me, this commenced with my bees in August and continued till towards the last of September. I have satisfied myself that this conditon of things is the result of an attempt on the part of the bees to rear more broods than the amount of honey in the hive, or to be obtained in the fields, will support. The brood in the larvæ and chrysalis state, may be said to be put on *short rations*—the short supplies being equally divided among *all, none have enough*, and when the brood is old enough to seal, *there is not food enough deposited in the cell to properly mature the bee.* My reasons for beleiving this are,

1st. That it occures when the bees are gathering but little honey, and in stocks that have not much honey on hand.

2nd. In a majority of cases the affected hives were such as had been queenless for a time (either by having thrown off a swarm or otherwise) and consequently were more disposed to rear brood largely.

3rd. The affected stocks were invariably black bees, the Italians at the time, being able to gather from red clover were better supplied.

4th. About twenty days from the time the bees commenced gathering honey from the fall flowers, the mortality ceased.

We have in this latitude a honey dearth, from about the 15th of July to about the 5th of September, during which bees gather very little honey. They commenced gathering from the fall bloom this year and last, the 5th of September, as my books show. Bees were gathering honey freely by the 15th of September, but the young bees in my two Black Stocks continued to die. I predicted to my bee friends that they would cease to die after the 26th, it proved to be so, all the eggs had after the 5th of September (the time the bees began to gather supplies) produced healthy bees. Those having bees in a similar condition the coming season, will please notice in regard to the supply of honey, as I did not think of short supplies being the cause of the mortality, until after they were gathering freely, when an examination could not have proved anything. bearing in mind that bees *may* be found dying as described, with honey in the hive, from an unwillingness on the part of the bees to consume their sealed stores largely on brood rearing when gathering little. I have found it necessary heretofore, to unite with others, stocks affected in this way, being all old bees, they would, sometime in the winter or early spring, show signs of dysentery, (caused by the reduced size of the cluster from the old bees dying) which would disappear after uniting. I thought of writing to the JOURNAL on this subject last September, but supposed old bee-keepers were familiar with what was a new idea to me, and it would be, with my limited experience with bees, like landsmen attempting to teach sailors navigation.

Russellville, Tenn. W. H. RIGGS.

For the American Bee Journal.

Death of Doctor L. J. Dallas.

Prominent among those who have done much to advance the apiacultural interests of the State, was Dr. L. J. Dallas the subject of this sketch, whose long illness terminated fatally this month (October) in the 63rd year of his age.

Since 1859, when he removed with his family from Ohio to Kansas, his best energies have been given to the development of our young State.

Securing a farm near Baldwin City, he put it under a high state of cultivation, and practiced medicine, also, during the same time. He left the farm in 1864, and moved into town that he might the more successfully prosecute other branches of business.

He was a strong advocate of the cause of temperence; As a physician he ranked high among his professional brethren;

As a friend of education he manifested that same indomitable perseverence, characteristic of the man, that overcomes difficulties which to common minds would have appeared insurmountable.

With the taste for all the embellishments and adornments of civilized life, he made his home a paradise of beauty. With christian fortitude he withstood the storms and contentions of life, which all men like himself, born with positive ideas, have to encounter. With due regard for his family of children, he gave each of them a good education, thus qualifying them for the various responsibilites and duties of life. He was a man of great general information,—a member of the Methodist Church and for a long time one of the trustees of "Baker University" located in the same city where he had his home at the time of his death. He evidently lived with a determination to leave the world better than he found it.

During the 15 years of his residence in this state he kept bees. The last nine years, he lived in Baldwin City and turned his attention largely to this business.

He was a strong advocate of the King hive, though he used, principally a modified form of it, having the hives made larger every way so as to accommodate several tiers of frames. He claimed that such a hive was more profitable with him than the others, as he depended mostly upon the Extractor for honey. At the time of his death he had about 80 colonies —all bright Italians and descendents of queens purchased several years ago of Mrs. Tupper. He was a strong believer in the superiority of the Italians.

His colonies were arranged in his bee-yard, in the rear of his dwelling in a very pleasing manner, beneath the shade of cherry, peach, apple and other varieties of trees, with paths, walks, and avenues between, reminding one of a miniature city sequestered among shady bowers.

For several years he was a zealous advocate of in-door wintering, and he built a house for that purpose, which was quite roomy, having the sides made double with saw dust filled between. His bee house was ventillated at the top, and he could maintain any degree of temperature that he desired. He also had wire cloth ventilators in the tops of his hives during their stay in-doors .But he did not succeed very well winter before last; many of the combs became mouldy and the bees nearly all manifested signs of dysentery. So last winter he resolved to not house them as heretofore but to try and make them comfortable during the winter on their summer stands. He accordingly procured rough clap-boards, which by using corner posts, he weather-boarded up into boxes, one for each hive and each having a slanting roof. After placing a quilt on the top of the frames and filling in with hay or straw on the top of it and under the cap, he placed one of the large outer coverings around each of his hives and packed between them and the hives with straw or hay, leaving an opening in front, which in severe weather he closed with a bunch of prairie hay, on top of which he placed a rough board with one end of it slanting against the box.

By this plan he claimed that his success was perfect, as his colonies were all vigorous and strong in numbers in the spring, having no signs of dysentery and no mould-combs.

For two years he was President of our State Association and made a very efficient officer.

The last meeting of the Association, at which he was present, he delivered a very able address, in which he gave us a summary of all the modern ideas and improvments and pointed out the relative value of each to apiculture in Kansas.

His energy and enthusiasm infused life into this as well as into every thing to which his attention was directed.

In his death, the Society has lost a friend, and the bee-keepers have lost a wise and experienced counsellor—one who was always wide-awake and progressive in his ideas. M. A. O'NEIL.

BLACK JACK, Kansas.

For the American Bee Journal.

Toads and Bees.

In this locality (7 miles northeast of Saratoga Springs) it will not do to have the entrance, or alighting board of hives nearer than 9 or 10 in. from the ground, on account of toads. Neither will it do to have a board leaned from the ground to the entrance. Toads are numerous and trouble bees most, early in the summer. Later in the summer, fleas, bugs, and other insects are more numerous, and bees seem to be disturbed less by toads. During the day the toads are quiet under bee-hives or boards, or somewhere out of sight, but in the evening and during the night they are out in force. I have, in the evening, passed in front of hives without a lantern, when the alighting boards were from 4 to 6 inches from the ground and there was from one or two toads at the entrance of nearly every hive catching bees. I have seen them when the hives were raised higher from the ground hop against the edge of the alighting board, and fall back. I have also seen a toad hop up an inclined board to the entrance of a hive, when the entrance was 15 inches from the ground.

Early in the summer, as the weather gets warmer and bees more populous, there are usually bees at the entrance all night. A toad will set on the alighting board and should a bee go within 2 or 3 inches of it the bee will disappear so quickly that it is almost impossible to see what becomes of it. Where toads have access to bees they usually in the morning contain from 2 to 8 bees each, and they do not eat dead bees either.

Cat birds are very attentive around bee-hives in June and July, but I have not proved them guilty of catching bees, or even drones. They are often immature bees, and moth worms.

Saratoga, N. Y. S. RUGGLES.

It is estimated there are two million bee-hives in the United States. A hive yields on an average a little over 22 lbs. of honey. The average price at which honey is sold is 20 cents a lb, so that the revenue from bees is $8,800,000.

For the American Bee Journal.

What Shall we Report?

DEAR EDITOR :—Are there not too many that have nothing to report but their failures, after trying to keep the Italian bees pure? A free discussion of all the known causes of past failures as well as the experiences of those who have been successful, we think, in order. Will our learned friend W. M. Kellogg please state the condition those four insignificant black stocks were in at the time his Italian queens became fertile, and by so doing will undoubtedly explain to beginners, for us. He says "one black stock swarmed and the new queen in the old hive mated with a black drone." Was not this stock in precisely the same condition we recommended for beginners to have their Italians in when rearing queens? We are very sure that there were black swarms in the above condition at the time his queens became fertile. We repeat only what we know for the benefit of those that wish to keep pure Italian bees. Allow those stocks to rear queens where your Italian drones are, at a time when there is no black stocks rearing queens in your vicinity if possible and you will not be troubled much with black drones. We are glad W. M. K. has a good opinion of chickens, for we are very fond of them ourselves, but prefer them stuffed. He says they will go up to a cluster of bees and pick out flies and drones by the half hour. What kind of bees has K. got? We are sure flies do not cluster with our bees, and if they did, woe to the chicken that undertood to pick them. By the way, would it not be well for beginners to keep a chicken inside the hive, for protection? I see that some writers find a great deal of fault with C. O. Perrine. I sold him a part of my crop of honey this season and found him a gentleman to deal with. He was the only man I could find in Chicago that would pay cash for honey. He buys at his own price, of course, as there is no competition. Is there not room for another honey dealer in Chicago?

We are aware that some of our queen breeders have recommended Palace hives, with a great number of drones. A barn full of drones would not answer us, though we could open the door and bid them fly when we wished, unless queen rearing was going on in the barn; in which case verily we say your drones know what is up.

Carson City, Mich. H. M. ROOP.

Length of Flight of Bees.

An Irish paper has the following :—"Three men were at work the other day in the neighborhood of Ballingeary, some three or four miles beyond Inchigeela, when suddenly a swarm of bees appeared. The men pursued the swarm, but two of them finding their exertions were of no avail, were unable to continue. The third however, persevered over hills and vales, brakes and brambles, after the runaway insects for the enormous distance of eight miles, until at length they alighted on a heath stalk, convenient to Gougane Barra, on the borders of Kaemaneigh, commonly known to the tourist, when their pursuer succeeding in effecting a capture, and brought them home in a hive. This uncommon race was run in less than an hour."

Michigan Bee-Keepers' Association.

The seventh annual session of this Association will be held in Kalamazoo, Mich., on the 16th and 17th of December, 1874. This Association has long been favorably known for the practical character of its proceedings; and arrangements are being perfected which will render the coming session fully equal to its predecessors. Kalamazoo is one of the finest villages in the U. S.—is easily accessible by rail from all portions of the country, while ample arrangements have been made for the free entertainment of all apiculturists in attendance from abroad.

We trust that every Michigan bee-keeper, who takes an interest in improved bee culture, will be present, and endeavor to make the coming session mutually interesting and instructive; while we extend a hearty, cordial invitation to those residing in adjoining States to meet with us.

HERBERT A. BURCH, Sec. *pro tem.*

GOV. CARPENTER'S ENDORSEMENT OF ANDREAS' IOWA STATE ATLAS.

STATE OF IOWA,
EXECUTIVE DEPARTMENT,
DES MOINES, OCT. 28, '74.

To whow it may Concern :—I have examined the proof sheets of the Minnesota Illustrated Historical Atlas, by Capt. A. T. Andreas, of Chicago, and I regard it as a work of superior merit, and it seems to me any citizen of Minnesota could hardly do without it. I understand from Mr. E. T. Phelps that Capt. Andreas is now taking the preliminary steps preparatory to publishing a similar Atlas of Iowa, with such improvements as past experience in this business naturally suggests to his mind. Having known Mr. Andreas intimately and well for many years, I have no hesitation in assuring all who may read this that he will do all he proposes, and that the public will find his work fully equal to the promises of his circular and advertisements. C. C. CARPENTER.

American Bee Journal.

W. F. CLARKE,
MRS. E. S. TUPPER, } EDITORS.

DECEMBER, 1874.

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Seasonable Hints.

This month is peculiarily the season of rest to the bees. Whether housed or on summer stands, they should remain quiet and be undisturbed. No colony in its normal state has either brood or eggs in the combs now, and the queen is small and appears to receive little attention from the bees, even if you stir them up by a light or too great a degree of heat. It is always best to have them in good order before this time and then leave them undisturbed.

Even if you have colonies in a doubtful state no good comes from interference now. Let them take their chances, until a month or two later, and then they may be fed and stimulated. (Of course this advice does not apply to those who are wintering over queens in small boxes or nuclei. If any one are doing this, they no doubt understand how to do it.)

The question whether it was necessary to allow bees a flight in winter was well discussed at the Pittsburgh meeting. Mr. Benedict described a cover made of wire cloth or musquito netting, with which he covered his hives; and bringing them into a warm room allowed them to fly within it after which they settled back quietly into the cluster.

Mr. Zimmerman also stated that he had treated his colonies in a somewhat similar manner, after they began to be affected with dysentery, and it was effectual.

Though we have no doubt of this, our advice still is, to have bees put away in the dark, where they are comfortable and leave them so.

If for any reason they have been fed or unduly disturbed, so that they feed themseles freely, it will no doubt be well to bring them to a place where they can fly and discharge the fœcal matter. But we do not advise beginners to try any experimenti, especially in the winter.

During these long evenings, we may all find time to study our business; see where we have failed in the past and plan for the future.

There is nothing in which forethought and care will pay better than in this. Decide how your hives shall be made, and make them. They will cost you much less now than later. Read the JOURNAL and during this holiday season endeavor to procure one new subscriber, if no more, and remit for them while renewing your own subscription.

We mean to improve it, in all possible ways; but you must bear in mind that we can no more do this without money, than the bees can make wax when there is nothing for them to gather. Remember, too, that our income is all made up of small sums; just as the bees pile up their great wealth—little by little.

The article on Bee Prospects, in the last issue, should have been signed S. Porter.

The extreme length of the Report of the Annual Convention has crowded out our "Notes and Queries" and "Voices from among the Hives." They will appear in the January number.

Auxiliary Societies.

Mr. H. A. King, Corresponding Secretary of the North American Bee-Keeper's Society, calls attention in the *National Agriculturist* to a resolution authorizing any of the officers of the association to form local bee-keepers' societies, auxiliary to the North American Bee-Keepers' Society, on condition that the members pay an annual fee of one dollar, half of which shall be paid into the treasury of the National Society.

He says: As Corresponding Secretary of the North American Bee-Keepers' Society for the coming year, it is my duty to solicit correspondence, and render the aid I can in the formation of such auxiliary societies. We know your needs, and shall endeavor to do our part in providing for the same. Some have suggested the advisability of paying $25 per lecture to some person to travel and form such local societies; but we could not give our vote to have money spent thus lavishly upon any person, even if he had uncommon gifts as a lecturer, for the hard-fisted, honest bee-keepers of the country can be better served by some one of their own number who will volunteer to deliver lectures in and near his county, where bee-keepers are ready to organize, and will pay the lecturer's traveling expenses. We will print a list of names and addresses of lecturers free, and pay them a good cash commission on all the subscribers they obtain for our periodicals, and furnish as many copies of December Magazine, containing Report of North American Bee-Keepers' Society, as may be desired for their use and no doubt friend Newman and other publishers will do the same. Then let us hear from all without delay.

1st. Let all who will volunteer to lecture or talk on bee culture and assist in the organization of local societies, send us their name and address at once, and we will publish them in a list, giving postoffice and county address of each, so that those who wish to organize a local society can have a choice of lecturers and know who lives nearest them. Of course each lecturer will have a right to ask pay for his time, if he choose, when he has to spend more than half a day to reach the place of meeting; but we cannot agree to publish any lecturers' names in the list without charge, unless he agrees to charge nothing except railroad and hotel expenses, for his services within his or adjoining counties.

2d. Let us hear from bee-keepers who wish to form a local society in their midst, and we will render all the assistance in our power.

H. A. KING.

Of course we will cheerfully do as Mr. King suggests, but we do think some lectures would be cheaper at $25 than others at one cent. It is quality we need, if anything. If Bee-Keepers want scientific research and practical knowledge embodied in a lecture, it will cost money to obtain it, besides railroad and hotel fare! But few men can afford to give their time for gathering up interesting facts, elaborating personal experience, and delivering lectures, without some remuneration.

We learn that at the Annual Meeting Mr. King intimated that Mr. W. F. Clarke might be prevailed upon to take the lecture field for a few months. Now if this can be done, we think it would be of great advantage in developing apiculture and helping local societies.

There are others, doubtless, who could do good in this line, but we mention Mr. Clarke, because he was spoken of at the meeting in question.

We shall expect to hear from both societies as well as available lecturers in time for our next issue. T.G.N.

Premium for Rearing Queens.

At the late meeting of the North American Bee-Keeper's Society a committee was appointed, consisting of H. A. King, Mrs. E. S. Tupper, and A. Benedict, to make arrangements and offer premiums for best results in rearing choice Italian queens and bees. Mr. King remarks: that the committee expect to offer several first

premiums—one for best nucleus stock with the best colored drones. A first premium (perhaps a gold or silver medal) for best queen and workers, etc., etc. It is not yet determined what premiums to offer, or what entry fee to charge. Some plan must be devised to secure money enough to offer valuable premiums, and the committee ask the advice, assistance and counsel of local and State bee-keepers' societies and all interested before we publish our plans.

Close of the Volume.

This number of THE AMERICAN BEE JOURNAL closes Volume X. During the past year we have endeavored to give our patrons reliable bee intelligence and able discussions on the various topics of interest to apairians. How well this task has been accomplished we leave our readers to determine. During the next year we shall endeavor not only to keep up to our present standard, but also to vastly improve the "old and reliable" AMERICAN BEE JOURNAL.

Selections from the bee publications of Europe as well as able correspondence from ths most reliable and experienced apiarians of our own country, will be given. We shall also increase the quantity of reading matter, by using type two sizes smaller, but having a large face, that can easily be read.

We ask our patrons to assist us, by procuring new subscribers among their friends or neighbors, and thus increase the usefulness of the JOURNAL. By getting two new subscribers you can get all three for the year 1875 for $5. This may be divided among the three, or you can get your own copy for $1. Larger clubs would make your subscription still less. See club terms on page 291.

Our beautiful Chromo "Just One" will be sent to all who pay in advance for 1875, before next January 1st, whether sent in clubs or singly.

In order to assist our friends in procuring new subscribers, we will send specimen copies to those that they intend to call upon, if they will send us their names and addresses. It will take but a little time to get parties to subscribe when they see our paper. There are thousands of bee-keepers all over the country who take no bee journal and consequently are uninformed concerning scientific bee-keeping. These should all be solicited to take THE AMERICAN BEE JOURNAL, and the thousands who now read and prize the JOURNAL can easily reach them. Will they not do it? Every one who reads this is specially solicited to act as an agent, and present the claims of THE AMERICAN BEE JOURNAL. We feel assured that they will do it. A few hours time from each, devoted to the interests of THE JOURNAL will add thousands to our list.

To any person sending us a club of ten, with $14, we will send a copy of the AMERICAN BEE JOURNAL one year *free*, and also the Chromo. To any one sending us a club of twenty with $25 we will send a copy of Worcester's Unabridged Dictionary in addition to THE AMERICAN BEE JOURNAL and Chromo.

Now who will devote a few hours to benefit themselves and also extend practical and scientific knowledge concerning bee-keeping? We shall see.

Address all letters to Thomas G. Newman, Cedar Rapids, Iowa, and make postal orders payable to

THOMAS G. NEWMAN.

John McAlister & Co, are our authorized agents for the ILLUSTRATED JOURNAL, at Room 27, Tribune Building, Chicago, with whom any business may be transacted with our approval, and be promptly recognized by the manager of this paper.

THE

AMERICAN

BEE JOURNAL.

FOR THE YEAR 1875.

"——— To Us, both field and grove,
Garden and orchard, lawn and flowery mead,
The blue-vein'd violet, rich columbine,
The wanton cowslip, daisies in their prime,
With all the choicest blossoms of the lea,
Are free allowed and given."—PARLIAMENT OF BEES, JOHN DAY, 1607.

VOLUME XI.

CHICAGO, ILLINOIS:
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1875.

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American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } Editors.

Bees and Flowers at Sydenham.

The following interesting paper is from the editorial columns of *The Farmer*, (English), of September 14th, 1874:

Tuesday was the first day of the exhibition held by the British Bee-Keeper's Association. The attendance at the Crystal Palace shewed that the bees, the botanical show, and the revived comedy of *Wild Oats*, in which Mr. Lionel Brough appeared, could draw a numerous crowd to Sydenham even in September. Suburban masters who keep bees, as they plant flowers, for the graceful adornment of their leisure, were present in numbers. The Beekeeper's Association proposes to its members this mission, and in one particular it specially recommends the co-operation of neighbours or the assistance of superiors. A honey-extractor is the most expensive machine in the beekeepers' plant. It is usually dispensed with, and the consequence is that from certain combs very pure virgin honey is got by the slow progress of straining; from others nothing can be obtained without relentless crushing of the cells, and the consequent vitiation of the honey by wax, bee-bread, and the bodies of undeveloped bees. The cheapest honey-extractor priced in the Association's catalogues is £2, 10s., and it is fair to presume that the best, which obtained the prize, and has no price affixed to it, is dearer. In a few minutes the extractor empties all the combs of the hive, and therefore it is not necessary for every cottager to keep one. But the village might subscribe for one, or some benevolent person might lend it. Lady Burdett-Coutts has already led the way in supplying swarms of bees gratuitously to labouring people on the sole condition that they shall pass on a swarm to their neighbours when the profitable insects increase after their kind.

The principal apiarian operation of which examples were given by Mr. Abbott and Mr. Cheshire, and explained by Mr. Hunter, Mr. Hooker, Mr. Symington, and other members of the Provincial Committee, was the driving of bees, which includes a great many minor processes. A few puffs from a pipe caused the bees to retreat among the combs, and the hive was then gently inverted. Above it the new and empty hive was placed with its open end towards the former base of the inverted hive. Then the chief bee-master drummed with his fists upon the lower hive and waited for the rush. At the first disturbance the provident creatures, always (though their life in summer is but six weeks) in fear of a poverty-stricken old age, had hastened to fill their bags with honey. Thus they were heavy and good-tempered, and those who escaped through the gap between the two hives forbore to sting the unprotected face and hands of the bee-masters. In a few minutes a rushing sound was heard, the bees had begun the ascent; the queen passed up, the remainder was sure to follow her. It was now safe to incline the top hive backwards so that the spectators could see what was passing idside. Like soldiers swarming up the walls of a beleaguered city the bees were observed hurrying up in thousands, climbing over each other's bodies several deep, without paying the least attention to the facilities for escape which the open hive gave them. Then the combs were taken out of the old and deserted hive and put in frames into the "slinger" or extractor. A handle is turned and the comb flies rapidily round. Centrifugal action drives out all the honey from the cells; it drops to the bottom of the vessel, and passes thence into the jar placed to collect it. The next thing is to tie up with tape the old combs, some emptied of their honey, some remaining full, in new frames and to place them in the new hive. In twenty-four hours, or, at most, in forty-eight, the fastenings of the tape will become unnecessary, for the bees with cement and wax will have built the combs into the new frames and

will quickly proceed to fill them with honey. By thus making use a second time of the old combs the time of the bees is saved; and they give to honey-making precious days of summer which would otherwise be devoted to the building up of fresh waxen cells. The whole process which we have described lasted less than an hour.

The stationary exhibition of the association was scarcely less interesting. There were some bees here, but they were imprisoned closely within their glass house or observatory hive. Mr. C. W. Smith exhibited, and obtained a prize for, the most beautiful breed of Ligurian bees a queen accompanied by her progeny. There are fifty different kind of bees known to exhibitors, but the bee of the Maritime Alps which gained this prize is the most highly valued of all for its fine appearance, good temper, and reproductiveness. It is the "yellow-banded bee," of Tennyson, and is used to improve the strain of the common black bee. There are also exhibited here, the detatched glass frames following each other like the leaves of a book, the frame hives as originally constructed by Francis Huber. The blind naturalist flourished at Geneva in the last century, and all his experiments were made with the eyes and hands of his assistant, Burnens, guided by the master's judgment. The frame is the key-stone of modern hive-building. The whole show is the development of the discovery of Huber. In the modern hives, bars of wood are laid across the top of a box, little slits are made in the lower side of the bars. In these slits wax is inserted. When the bees are admitted they find the wax, attach their combs to it, and these are thenceforth formed in straight lines, and are thus more convenient for the use and observation of man than the spoke-like and irregular arrangements which otherwise are made by the insects. Mr. F. Cheshire took the prize for the best hive frame with moveable combs. For the best cottager's hive on the modern principle the prize was awarded to the untiring Mr. Abbott's 3s. hive. Mr. J. Lee gained another prize in this class for a tall and handsome house of three stories, each story forming a super to the stock hive, or a new stock hive. There were in these classes innumerable ingenious combinations of detail and whimsical varieties of pattern. The bars are kept apart by pins in some hives, by notches in others. Some hives are made to imitate houses, others are like iron safes. One is a humble imitation of the great Palace of human industry and amusement in which it is exhibited.

The "run" honey which was shewn, varied in colour from the purest shade of primrose yellow to the darkest brown. It is well known that the hue depends upon the food of the bee, white clover producing a comb as white as snow, and primrose honey, while hives which stand near the sycamore will give a fluid as dark as punch. Mr. A. Ferguson, whose bees feed probably upon the clover fields of Ayr, the Hon. and Rev. H. Bligh, of Henley-on-Thames, and Mr. Abbott tied for the largest and best harvest of one stock of bees. The Rev. G. Raynor had the best exhibition of super honey from one apiary. The weight is not declared, but Mr. W. B. Carr competed in this class with a gross weight declared by him to be about 100 lb. Mrs. W. H. Clark exhibited the best straw super, probably about 40 lb, In a similar class the prize was taken by Mrs. Pagden, widow of the Sussex bee-master, who has told how he made £70 a year by his bees. In similar classes the name occurs of Mr. Cowan, who recently informed us that he had 700 lb of honey in the season from twelve stocks of bees; and we are struck with the frequent reptition of the name of Anderson, an Ayrshire family, one of whom came up from the neighbourhood of Stewarton, of honeyed fame, with thirty-four specimens of his own and neighbours' growth, and lost not one super by breakage or otherwise in all that journey.

In the cottagers' classes, open only to those who work for daily hire, there were twenty-two entries, and Mr. Withnal, Mr. Ferguson, and Mr. W. Martin were the most successful exhibitors. Mr. Cheshire obtained extra prizes for several ingenious inventions. With five pins he formed a little trap for keeping bees out of a hive where they are no longer wanted. The pin bisects the little hole left for egress, making a valve which may be lifted on going out but bars all return. There is a drone trap of different construction. Another invention is a nucleus hive. Where a queen is desired for adding to the stock, Mr. Cheshire puts in the hive a bar which can double up. When brood cells are attached to the bar he takes it out, and puts it into the nucleus hive. The bees transferred find themselves without a queen, and set to work to feed and house one of the young in such a way that it develops into a queen fit to fly abroad and become the mother of many bees.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum.

Notes and Queries

I wish you to answer through the JOURNAL if I had not better put my Italian colonies in hives with open bottoms; then in early spring, set them on other hives filled with empty combs, and have them work down through them. I use a double-hive, similar to the Langstroth. Will that not be the best and easiest way to have access to early brood, for queen raising, and disturb the arrangement of the colony less, than any other way? S. EMMONS.
Pottawattamie, Kan.

The way you speak of has been tried often in our own apiary, but we do not recommend it as being a good plan in early spring. Instead of that, we would keep the hive as tight and close as possible, with quilt, carpet, or mats on the top of the frames. As fast as two frames are tolerably well filled with brood, move them far enough apart to admit of placing an empty comb between the two, and repeat this in a few days. If a colony has a prolific queen and plenty of honey and bee bread, they will increase very rapidly in brood, if managed in this way. Later in the season a comb full of unsealed brood may be taken away every three days, and yet the colony keep strong.

After the weather is warm, if you do not care to have swarms, you can put a hive filled with comb under another hive to good advantage. We have had both hives in this way, filled with brood in July, and secured large amounts of box honey from them.

MRS. E. S. TUPPER:—I read in the proceedings of the Annual meeting of the Bee-Keepers' Society, that you have said that there is danger, in importing, of getting a taint of black stock; as they may have mixed some of the Egyptian blood; as I am just now holding, in the bee world, that there are no hybrid bees in Italy. I would be glad to know whether you have ever received tainted queens from Italy, and the name and address of the bee-keeper who sent them. Hoping to receive an answer from you, I am respectfully,
CH. DADANT.

We said no such thing as is reported of us at the convention. During the remarks on that point some one asked if the impurities which Mr. King and others were complaining about, might not be caused by a cross with the Egyptian instead of the black bee. We replied that it was not probable, as we had never heard that Egyptian bees had been at any time taken to Italy. Our remarks were all directed to the importance of taking more pains with the stock we have already brought from Italy, and keeping it pure, while it would be improved by the influence of climate and new pasturage—the same as experience demonstrates, cattle, sheep and horses are improved.

Which is the best and cheapest mode of transportation, express, freight, or mail? Some bees have been received here by mail, all right. I suppose that is the cheapest way—cheaper to feed them than to have the whole hive sent by express. Is this idea correct? Is it fully settled that the Italians are the best bees on all accounts?
Colorado. N. A. B.

We are sure you are mistaken about "colonies of bees being sent by mail." It cannot be done. Queens with a few bees accompanying them are often sent by mail safely, and it is perhaps as good a way as any to send them, if it can be made lawful to send them. At present the rules of the Post-office department forbid it. We have sent bees to Colorado safely, both by freight and express. If only one hive is sent at a time it would go better by express. If a number are sent together we would quite as soon risk them by freight.

It is fully settled by the vote of a large majority of those who have tried both varieties, that the Italians are best on all accounts.

As nearly as I can come at it, there are somewhere in the neighborhood of 80.000 stands in N. C. This is probably below the mark. But the losses of the two years past have been very considerable. Enough to reduce the round average by several thousands.
New Garden, N. C., A. E. KITCHEN.

We had no idea that so many bees were to be found in North Carolina. When improved modes of keeping bees are introduced there, with all the advantages they possess of soil and climate, we have little doubt that as large results as are reported from California will be obtained.

I send you a conundrum—one I cannot guess, if as you teach there is but one queen in a hive, and that every swarm that comes off has a queen. I had last May (the 25th) a nice swarm from one of my hives; saved it all right; two hours after, another swarm nearly as large came from the same hive! No mistake about it! I hived them both myself. How do you explain it?
Southern Illinois. C. G.

It is not hard to explain. Your hive had, in some way, lost its old queen; she may have died, but from the fact of there being so many bees in the hives we judge that she came out with a swarm when you did not see her, was lost in some way, and the bees went back. They waited until the young queens in the hive were perfected and then swarmed. A young queen leading each swarm.

If there had been bad weather for a few days previous to the occurance, it is possible that the swarm had been kept back so that a young queen hatched the same day the old queen left with the swarm.

This second solution is, however, not as probable as the first. Either may be the true one, however, without conflicting with the teachings of any practical bee-keeper.

Do you think my bees, prepared as you have advised for wintering, need water towards spring? I have left the caps on, with quilts under them over the frames. Have they sufficient ventilation?

Blair, Pa., F. M. G.

They need no water. Do not disturb them in any way until you set them out in the spring.

As to ventilation, we have always left off the caps from the hives. Others report good results, who have left them on, just as you described. We are inclined to think that when the quilts are on, they need less ventilation than we supposed formerly.

We saw a hive last spring on the top of which (the quilt being on) another hive had been set, and remained so all winter, cutting off entirely any upward ventilation. We thought it would be ruined, but it was to our surprise in good order; bees lively, and combs free from mould, with some brood in thom. The quilt, however, was as wet as if it had been wrung out of water. Our inference is that, it would have been better, had the cap been on that hive. In that case the quilt would have been dry; but it shows also that there is air enough in a cap for all premises.

Mrs. Tupper:—I am indebted to you for the information I have, and shall give; for if I get my bees safely through the winter, it will be entirely due to the advice I have received from your writings. All I see from your pen seems to be to the point. Too many connect their advice with the advertisement of a patent hive, or something else, and it sounds too much like the old Deacon who said "he knew there was a reality in religion as well as he knew he had flour to sell at four dollars and a half a barrel." In describing my bees, I forgot to mention one thing which I am not certain about, and that is, I have stopped the entrance nearly up—so close that a bee cannot get out with a view to stop a draft of air. The theory which I have adopted, after reading your articles in the Bee Journals, is, that there should be upward ventilation to let the moisture escape, but if it is left open below the heat of the bees will cause the air to ascend, and cold air rush in below, and in order to keep up the necessary heat, will make an increased consumption of honey.

O. B. Burrows.

Close the entrance except a passage for a bee or two at a time, just so they know they can get out, if they wish. Then with the quilts on there will be no draught.

Our great want here is a plant that will produce honey from the 1st to the middle of June. For two seasons now I have had to feed in June. It looks to me like the wrong time of year to have to feed strong stocks.

Riverton, Iowa. Ed. Wellington.

While we lived in Washington county, we always sowed buckwheat as soon as possible in the spring. It would bloom in time to just fill in that time of scarcity which is a trouble in many parts of the West. Some years it is true, there seemed little honey in it; other seasons, it was very valuable.

We are told that rape and rapp may be made to bloom early in June. We have not tried it. Will some suggest a plant that blooms at that season.

If bees are not gathering honey from 1st to 15th of June, it "pays" to feed them then, above all other times. You will then have them in good condition for the best honey yield, which comes late in June, lasting until the middle of July.

Is there any way to evaporate honey that has been extracted before capping?

I have heard of setting it near a fire, where it will keep warm, in a wide mouthed can or jar with netting tied over it, but this seems a very slow way.

I have heard, also, of evaporating in shallow pans in the oven; but when we have one or two thousand lbs. to evaporate, this method is impracticable, it is said, also, that heat destroys its flavor. Is this correct? How would it do to put it in a large but shallow kettle, and heat it up almost to the boiling point, and let it stand there for——how long?

There would be some danger of burning it, I suppose. Here in Texas the time saved in uncapping is a great desideratum; we have no expert cappers here; ank a good hand opening can keep two of our best hands capping. B. H. Ives.

We have no experience in the matter and cannot think it pays to take honey from the hives until at least, it is ready to be sealed over. Others may know more about it than we do, and to them we will leave this correspondent.

Cincinnati Industrial Exposition.

Cincinnati, Sept. 29, 1874.

To the Board of Commissioners:—

Gentlemen, Being appointed jurors in Department B, Class 21, we have examined the different entries for competition, and report as follows:

Best Apiary of not less than 50 hives. *Silver medal.* J. S. Hill, of Mt. Healthy, Hamilton Co., O.

Best Apiary of not less than 10 hives. *Bronze medal.* Jos. A. Savage, Ludlow, Ky.

Best Honey Extractor. *Bronze medal.* Henry W. Stephenson, Cincinnati, O.,

Best Display of Honey in Comb. *Bronze medal.* James H. Anderson, Hillsboro, O.

Best Display of Extracted Honey. *Bronze medal.* Chas. T. Muth, Cincinnati, O.

Richard L. Curry, } Jurors.
Howell Gano. }

Foreign Department.

CONDUCTED BY CH. DADANT.

Who is there that would not have followed with interest the discussion on the copulation and laying of the mother bee, that had been begun at the Saltzbourg meeting? At the receipt of each number of the Bienen *Zeitung* I thought that the minds of the opponents were becoming more excited, but I was mistaken. Mr. Collin abandoned the battle field and withdrew from the stand, so that Mr. Huber remained alone. Later the Bienen *Zeitung* published several articles on this question, but nobody treated it in a complete manner, so that the question remains as it was in the beginning, when taken in a practical view.

I write this essay to conduct the novice on the track, through which he will be able to form an opinion, helping it with experiments and observations. In order to ascertain at what age the heat begins in the young queen it is necessary to know at what time she has left the cell.

Generally, a mother bee becomes developed into a perfect insect within 16 or 17 days from the time when the egg is laid, if properly attended to.

If properly attended to, the larvæ is developed in three days.

In well stocked colonies and during an abundant harvest, I have seen the larvæ hatch after after two days and 4 hours. In a temperature of 32 to 33 degrees (centigrade) I have seen the larvæ hatch after 2 days and 6 hours. In artificial swarms made with brood combs, in which the brood was but thinly covered with bees, the larvæ often hatched on the 4th or 5th day after being laid.

In a colony that had suddenly become weak, some of the eggs did not hatch for for a week until this same colony had become strong again and the bees were able to attend to their hatching. I will simply mention the fact that bee-eggs that have been deprived of sufficient heat are still capable of becoming developed after 10 or 12 days.

As the egg needs no nourishment but requires only heat to become a living being, the duration of time in which the larvæ becomes developed in the egg depends on the brooding, that is on the degree of heat that the bees produce in the brood chamber. We can assert that, as a general rule, the larvæ leaves the egg in three days.

In too high a temperature all organic life ceases. There is undoubtedly also for bee-eggs a maximum of heat that cannot be exceeded. Bees do not produce in the interior of the hive such a degree of heat that the eggs lose their capacity of becoming developed ; I think that the highest temperature in which they still become developed is 37 to 38 deg. (centigrade—98 to 100 Farh.). This supposition is based on the observation that such a heat is about the highest that can be supported in the hive when the sun strikes it. I made the same observations on butterfly eggs. Such experiments cannot be tried with bee's eggs as the wax melts. These eggs assuredly would perish rapidly in a temperature of 50 deg. fah.

It results from the above remarks that it will always be impossible to establish in every case the length of time in which the larvæ becomes developed in the egg. Generally, the royal larvæ lives 5 days and 12 hours in the open cell.

If it is not a small affair to establish the length of time during which the egg becomes changed to larvæ, it is yet much more difficult to determine positively the period during which the larvæ lives in the open cell. Let the reader make minute observations on the subject and publish them in this paper, for it is precisely on this question that there is least known. Francis Huber, of Geneva, says that the royal larvæ remains in the open cell for five days. According to my observations which differ but a few minutes from those of Van Berlepsch, the royal larvæ remains in its open cradle 5 days and 12 hours, supposing that the temperature is regular and that the larvæ is amply fed. When I removed the comb containing the uncapped royal cells once an hour for two days to inspect it, I found that these royal cells were sealed over only 5 to 8 hours later. Afterwards I removed from the hive some combs containing royal larvæ, I removed the bees and placed one of these combs in an empty hive for 24 hours. I obtained in this hive a temperature of 23 to 26 deg. by means of heated bricks. After this time, I returned this comb to the colony and those cells were sealed 14 hours, and in several cases 15 hours, later than they should have been if in normal conditions.

It results from these experiences, that the royal larvæ becomes developed more slowly and are therefore sealed more tardily, when the necessary attentions have been interrupted and when food is given them after a prolonged interruption. It is known by everybody that royal larvæ requires more than the usual time for their development when raised in an artificial swarm that cannot produce the necessary heat for the brood.—*F. W. Vogel, in Bienen Zeitung.*

The Hen and the Honey-Bee.

(AN APOLOGUE—FROM THE GERMAN OF GELLETT.)

BY JOHN G. SAXE.

A lazy *Hen*—the story goes—
Loquacious, pert, and self-conceited,
Espied a *Bee* upon a rose,
And thus the busy insect greeted :

"Say, what's the use of such as you,
(Excuse the freedom of a neighbor!)
Who gad about, and never do
A single act of useful labor?

"I've marked you well for many a day,
In garden blooms and meadow-clover;
Now here, now there, in wanton play;
From morn to night an idle rover.

"While I discreetly bide at home;
A faithful wife—the best of mothers;
About the fields you idly roam,
Without the least regard for others.

"While I lay eggs and hatch them out,
You seek the flowers most sweet and frag-
And, sipping honey, stroll about, [rant,
At best a good-for-nothing vagrant!"

"Nay," said the *Bee*, "you do me wrong;
I'm useful too, perhaps you doubt it,
Because—though toiling all day long—
I scorn to make a fuss about it!

"While you, with every egg that cheers
Your daily task, must stop and hammer
The news in other peoples' ears,
Till they are deafened with the clamor!

"Come now with me, and see my hive,
And note how folks may work in quiet;
To useful arts much more alive
Than you with all your cackling riot!"

L'ENVOI.

The *Poet*, one may plainly see
Who reads this fable at his leisure,
Is represented by the *Bee*,
Who joins utility to pleasure;
While in this self-conceited *Hen*
We note the Poet's silly neighbor,
Who thinks the noisy "working-men"
Are doing all the useful labor!

For The American Bee Journal.

Handling Bees.

I commenced helping my father handle bees in the summer of 1818. I have handled them in the old way, most of the time. I have a few gums of my own getting up, that I can go to, and in one minute, have them open, lift the frames, and give them a thorough examination. Long since I found that one should move slow around the hives, and if the bees should surround him or even come within an inch of his nose, he should be composed. If he should get angry the bees will know it and reciprocate it, and so will they know if you are at ease with them. When you open the hive, if they seem angry or are disturbed a few puffs of smoke will entirely subdue them, and you can proceed with your examination. J. FROST.

Gillespie, Ill.

For the American Bee Journal.

Success in Raising Honey.

We have often spoken of the business of bee-keeping and raising honey as one of certain profit when conducted as it should be.

An apiarian should have a taste for honey raising, he should have a practical knowledge of the business to go into it on a large scale, so as to make a business of it. It is very easy to keep a few hives, but to conduct business on a large scale requires a person of mind, for the study of the habits of this little wondrous creature is a most truly interesting and at the same time a most gratifying one, and when understood, the business can be made very profitable.

The largest apiaries in this state are at Sandiago and at Los Angelos, the southern countries are very favorable for the raising of bees and making honey, as many wild flowers and bee feeding trees, shrubs and plants are found there in great abundance.

Very recently we had an interview with Mr. J. B. Harbison, the well known apiarian, formerly of Sacramento, but now permanently located at San Diego, where he is carrying on a very large and very successful apiary. Mr. H. was in this city with three car loads of his honey destined for Chicago and the East. Mr. H. had already sent six car loads, and anticipates sending six car loads more this season, thus making twelve car loads of honey from one apiary, this looks like business.

We remember well the early days when Mr. Harbison began the bee business with a very few hives, brought here via the Isthmus, at heavy cost, at a time when a hive of bees sold quick at $100 to $50 each.

Mr. Harbison has now at San Diego two thousand hives of bees, these are principally the Italian bees, as they are much superior to the black bee.

In addition to the large amount of honey raised by Mr. H., and it is about 100 tons, Mr. H. makes 1,000 lbs. of beeswax. Mr. Harbison went East with his late shipment, taking it in his own charge.

A. G. Clark, Esq., formerly a partner of Mr. Harbison, has also a large apiary, nearly as extensive as that of Mr. H.

For a person of the right turn of mind and a very little capital, we know of no occupation or business more interesting, or one more certain to make good returns than that of raising bees and making honey. There will always be a market for good honey here, and a certain fair return for it when shipped abroad. All that is needed to insure a complete success is a little capital, intelligence, a willingness and readiness to be industrious as the bee, and success is sure.

We would commend our lower counties, San Diego, Los Angelos, and all along that line of country.

We can always give valuable information on this subject, as we are practically in it in this city, where bees do remarkably well, as we can show.—*California Farmer.*

A FIFTEEN-YEAR-OLD SWARM OF BEES.—Early in July, 1859, I put a swarm of bees in a common box hive made of rough hemlock boards 12 inches square by 15 inches high. From this hive has issued a swarm every year until now. SOL. CRANDELL.

Chatham Village, Col. Co., N. Y.

For the American Bee Journal.

Eccentric.

Now Mr. Editor: did you ever? The old reliable AMERICAN BEE JOURNAL has had it's "Novice," "Amateur," "Tyro," "Fogy," "Beginner," " and many others whom we don't recall; and now here comes another *non de plume* in the way of an "Eccentric." Well, it takes all sorts of people to make a world, they say, and we dont know of any good reason why the bee-keeping world should not have an "Eccentric" as well as other people. So please don't laugh at our queer ideas and awkward movements, lest we become embarrassed 'ere we become waywised in our new relation, for, to tell you the plain truth, we must confess to feeling a little shaky in the *role* of newspaper correspondent. We realize our own limited attainments while in the company of the brilliant, racy writers of the old A. B. J. and really are not sure that we'll be seen at all amid so many great lights, whose brilliancy outshines all smaller luminaries. But, pleading our youthful years in extenuation of mistakes and blunders, we'll try and behave properly, doing the best we can.

By the way, what has become of all our old writers who used to entertain us so often and well? Where is Gallup? Has he engaged in the production of corn so extensively, (that yields honey the whole year 'round) that he can find no leisure to tell us of his big feats in bee-keeping? Or has he found a problem in that big, long, hive which he's unable to solve?

And Novice. He too, used to amuse "us little folks" with his funny stories. and numerous experiments. We suppose he's *gleaning* the fields of Medina Co. and really has no time to tell us of what he's doing. Or it may be his "mission in life" has been accomplished, now that the "patent-right fellows" have subsided.

And where is Quinby with his plain practical ideas and large common sense; Adair, with his ponderous, jaw-breaking names and brilliant "new ideas:" Dadant whose extensive, accurate knowledge and terse, vigorous sentences were always read with avidity; Argo who always had something good to say, and knew how to say it well; Burch who once wrote regularly, and usually to the point; and many others, "too numerous to mention." Can't they be induced to resume the pen once more? We trust they may.

We notice that some of the Journal's correspondents have been bothered in getting the pay for their honey. To toil and sweat through the hot summer months to get a nice pile of honey, trusting that the proceeds in the fall, from its sale, will remunerate us for all our hard work, and then be cheated out of a portion or all of our money, by a dishonest honey merchant, may be a nice thing for the latter gentlemen, but we don't exactly appreciate it. In fact it's a transaction that is becoming so frequent that some means should be devised to put an end to it. What we, as bee-keepers, need to-day above everything else, is, some good, sure market for our honey at a fair price, *in cash paid on delivery.*

The cold and chilling winds of spring may decimate the ranks of "bee-dom;" heat and lack of moisture may cut short the summer pasturage. This we can and do bear uncomplainingly. But to lose what honey we do get, through the dishonest, thieving propensity of some city dealer is a little too much; it's the one step from the sublime to the ridiculous. This may be considered plain talk, and we are inclined to think so too. We always try to speak intelligibly, ever aiming to tell the truth. Now, we by no means wish to be "understood that we deem all men (and women) who solicit consignments of our honey, as belonging to that class of people who wish to avoid paying for what they buy. Not at all. But there are people of this class, and we would denounce them in unspairing terms. We know of no better way to make them honest, than to advise people to avoid them altogether. In this connection we would caution all our readers about selling to a New York honey house "on time," unless the parties who run it have a little more regard for their dealing than a Chicago honey house, you'll be apt to lose by it. We've been there and "know how it is ourselves." And "Eccentric" isn't the only person who has lost money by dealing with these same parties.

The season just closed, has been rather a dull one in our localtty. Bees came through the winter in poor condition, faucity of numbers being the rule; while the fearful months of April and May, just did a sweeping business in the diminution of the remnants of what once were, powerful colonies. Juue was warm and balmy, but the avidity of the atmosphere "played smash" with our honey prospects, though our little "baby colonies" increased in stature with such celerity that with the advent of the linden blossoms on the 8th of July, they were "forty thousand strong" and ready for conquest. Ah! yes, they were ready, but the linden hadn't any idea of being pumped of its delicious nectar; and after "making believe" for sixteen days—days of anxious, weary waiting for the good time a coming, ever waiting, but never appearing—doffed its millions of tiny, pendent blossoms, and bid farewell to honey and 1874. And thus it was during the remainder of the season, save that boneset furnished us with enough liquid for colds, croup and catarrh,, the concomitants of Northern winters. (By the way have our readers ever investigated the medicinal properties of the various kinds of honey? If any of you are ailing, we'd advise you too.) And so we've got but little honey, and as honey is low and dull we've surely got less money; but we have got a a few bees left to die off next winter when old boreas and the "bee-disease" make their annual appearance.

Mr. Editor: we said honey was low, and the probability of it commanding still lower prices in the future, stares us squarely in the face. Now, as consumers of honey pay just about as much money for the article as formerly, we'd really like to know what's the matter. Isn't the solution of the problem to be found in the fact that honey dealers are constantly endeavoring to depress prices so as to purchase from the producer at the lowest possible figures. By keeping the price to the consumer up to the old figures, of course the profits of the business are augmented. Now what earthly use is there in giving all the profits to some honey houses why not adopt the Granger's principle of selling direct to the consumer, and save our hard earned shillings, while the consumer will be benefitted by lower prices

and a purer article? Of course, if we raise numberless tons os golden nectar, it may be necessary for us to secure the aid of the "middle-men," but make him do the business, on not extortionate principles. We said that the consumer would get a purer article at a lower price. Of course we can afford to sell at a cheaper rate than the consumer has usually paid, and at the same time, sell him something besides sugar and glucose. It seems to us that there should be a distinction between the products of an apiary and a honey-house. Consumers should note this point; for, while the former represents the delicious nectar of nature's labratory, the latter conveys a strong impression of the conglomeration of a variety of saccharine substances, of which honey forms an insignificant proportion. In recently passing over the Michigan Central R. R., we stopped off at Dowagiac to visit Michigan's rising apiarian, Mr. James Heddon. We were much pleased with his apiary and its arrangements; and also were particularly impressed with the correctness of his ideas upon the above subject. He thinks that extracted honey is having a hard time of it, when compelled to compete with the sugar works of New Orleans and the glucose factories of France. We are glad to add that he, is doing good work in redeeming the good name of extracted honey, by furnishing the consumer with a neat, pure article at living prices.

Mr. Editor, haven't you been bothered so much with the hive controversy as to be out of all manner of patience with the patent-right chaps? Well, we just want to say a word or two on hives, and as we've no "right" to sell or give away, please tolerate us just a few minutes. Long idea hives had been lauded to the skies and their praise vociferated the wide world over, so we, too, must have 'em. Well we've got 'em, and *now* if we could only find the man who invented them, we'd be most terribly tempted to call him—well, we wont say what, but 'twould not be pretty, we can assure you. The simple truth, plainly told, is this: these great, long, ungained, ill-shaped monstrosities of a bee-hive are unmitigated humbugs, both theoretically and practically. Adair may tell us of the obvious advantages to be derived from using a hive ten feet long; that we may increase the fertility of the queen; Gallup may triumphantly point us to his 800 pounds of liquid from one hive in a single season. Novice can predict that these fearful "new ideas" will 'ere long, rule the (bee) world. But why won't Adair have the kindness to say that he loses more than 90 per cent of his bees in winter; Gallup the manliness to frankly state that he can get his 800 pounds from the same number of combs in smaller hives and with much greater certainty; and Novice the candor to admit that he hasn't used such hives at all. These rose-colored pictures of long, one story hives, are evanescent bubles ready to explode upon practical experiment and investigation. They offer no possible advantage over smaller hives, while they are deficient in many prime requisites which small hives possess. And if any "new idea" advocate wishes to "go for us" because of our heresy in this particular, let him "pitch in.'

And now in conclusion, we must confess to having been a trifle belligerent, perhaps, but will try henceforth, to be a steady sober

ECCENTRIC.

For the American Bee Journal.

A Home-Made Bee Hive.

A correspondent of the Cincinnati *Gazette* gives such plain directions for making a bee hive that every boy on a farm with a bit of a taste for mechanics can readily make one for his own bees. He says: In the first place you want rabets, half an inch deep, at each end of the hive, to receive the ends of the frame; next you want your frames made true so that they will hang plumb in the hive. There should be one frame for every inch and a half of space in the width of your hive. Next prepare your bottom board and lay it level. Put your hive on the board so that the frames will run from front to rear; then elevate your hive about three inches, and your hive is ready for the bees. Make your frames just three-fourths of an inch shorter than the inside of your hive, and have them so that they will not touch at either end nor swing against each other. I have a center opening that is very convenient, and different from any that I have seen.

I wish it understood that when I raise the rear of the hive, I raise the bottom board with it. If your hive leans to one side, the bees will build across the frame. I have my bees in a yard, and each hive is covered with a cover made by nailing two boards together and resting it on the top of the hive. I make the top board of my hive in three pieces, by nailing two cleats on the top of them, and making two holes to run across the frames, each hole six inches long. This is to make room for the bees to pass into the surplus honey-boxes. When the boxes are on, the cover alluded to rests on the box.

G. LONG.

For the American Bee Journal.

A few Remarks.

I find different writers in our bee journals and standard books, published for our instruction, often come in conflict on questions of some interest and information to the bee keeping community.

There has been considerable written on the subject of the Italian and native bees in comparison with each other.

With regard to their peaceable and quiet disposition, I have read remarks by some giving preference to the Italians as altogether more peaceable than the native, and that they would hardly ever use the sting, if treated with gentleness. Some have given the hybrids the name of being the crossest and most difficult to manage.

W. M. Kellogg, in your October number, tells us: "Many say that Italians are not so cross in brushing off the coombs as hybrids and blacks, but we don't find it so. We have handled a good many stocks this season, of all three kinds; and when we come to the extracting, give us the hybrids and blacks in preference to the Italians, every time. * * and the worst stinging we have had this summer, has been by Italians."

I think that a little reflection will satisfy us that the three kinds will probably ply their different weapons when rudely assaulted; and that under quiet and gentle treatment we may succeed, with little trouble, with either of the three.

I confess I have never discovered any marked difference in the three varieties, in this particular.

Again, it has been claimed by some that the Italians will gather more honey than the black bees. There has been so much said in their favor, and they look so handsome, I think if a coloney of equal strength of each kind was offered me for choice, I should take the Italian.

It may, probably, be favorable to make such a change as their education among our native bees will effect. The largest amount of box honey I ever secured as surplus from one hive, in one season, (200lb), was by hybrids. The largest amount I ever secured, except in that instance, was by a colony of natives (174lb). It was in different seasons, and in different fields—hardly admitting of any satisfactory or certain comparison.

From my experiments, thus far, I have no doubt that much more depends upon the character of the hive, than of the question which variety of bees are employed. The most important point to secure is the largest force of workers, through the honey season.

Take a hive in the early part of the season and divide it into three or four colonies, and little surplus must be expected. With all the workers operating in one hive, a handsome surplus may be secured.

My doctrine is,—Secure a large working force by removing all disposition to swarm from the abundant box rooom, given in intimate connection with and easy entrance from the breeding apartment, and secure from 100 to 200 pounds of box honey from each coloney. Let others do better that can. JASPER HAZEN.

Woodstock, Vt.

For the American Bee Journal.

Superior Fiddlesticks.

In the December No. of the JOURNAL, friend Ross pitches into me, and says: "are there not too many that have nothing to report but their failures, after trying to keep the Italian bees pure?" And, "will our learned friend, W. M. Kellogg, please state the condition those four insignificant black stocks were in at the time his Italian queens became fertile?"

I do not know what condition they were in at the time, for they were a neighbor's stocks, and I had nothing to do with them. But I know that they were medium strong stocks, and but one of them cast a swarm. But their condition just then hasn't much to do with it, for it was not only at that time that the Italian queens were mated with black drones, but *all the season through*, when they had no need for their drones.

At the time I wrote, but a few queens had been raised, but later a good many have been raised, and some quite late in the season, and fully three-forths (¾) of the Italian queens were mated with black drones, weeks after the blacks were done raising queens; when, according to friend Ross, they should be out of condition, but still we were "troubled with black drones." With one exception none of us were trying to keep the Italians pure, had no black drones of our own, but plenty of Italian drones. One person was raising queens, and of course wanted to keep them pure. Tried to buy the black stocks of the owner, or put in Italian queens, but he'd have none of it. So we had to run our chances. We kept our Italians in good condition, saved all the drone brood we could get, and I cut out and gave to my friend several sheets of Italian drone brood, so that we had thousands of drones flying. Besides, I killed a great many black drones while transfering one of the four black stocks, and still we were troubled with black drones, to the extent of three-fourths (¾) of our queens.

I think now as I did then, "Superior fiddlesticks."

"What kind of bees has K. got?"

The same kind as you have probably, at any rate they have got legs, wings, stingers, etc., and gather honey etc., when there is any to get. Any one who has noticed bees clustering in front of the hive during warm weather, has seen flies around them too: drawn there by the scent of the hive, trying to get in, and continually on the jump to keep out of the bee-guards way. Then it was the chickens walked up and introduced the flies down their throats, and I never noticed more than one or two that got stung.

Our bees are very quiet, generally, and friend Ross could step up and pick out the flies himself without being stung.

I think it would not be a good plan for any one to put a chicken inside of his hive if living near to friend Ross, for if he is as fond of chickens as he says, he'd "go for" the chicken if he had to take bees and all. Brother bee-keepers, keep an eye on your hen roosts. W. M. KELLOGG.

Oneida, Ill.

For the American Bee Journal.

New Bee Pasturage.

I have been keeping bees in a limited way for the past 27 years, but the number of my colonies never exceeded 40 or 50, until the past season. In the mean time, my experience has met with occasional drawbacks and losses, but I have made the business of producing honey a success, and therefore feel encouraged in my old days to expand it a little.

I have been using the Langstroth hive mostly, but I prefer the large Trellis hive of Mr. Simons, of Fairfield, Iowa; in which I find no difficulty in wintering on summer stands. My Langstroth hives I have to store away in a dark, dry cellar, to keep them safely through the winter.

In my bee yard I have growing a few bunches of a perennel plant known here as the "pleurisy root." It is a pretty and fragrant blooming plant, upon which the bees cluster busily for more than a month, and do not forsake it until the bloom is entirely gone. What are they after? Honey, pollen, or both?

I consider it worthy of cultivation for bee pasturage. What do our experienced bee-men know about it? Will they answer through the JOURNAL. DANIEL RIDER.

Fairfield, Iowa.

No other branch of industry can be named in which there need be so little loss on the material employed, or which so completely derives its profits from the vast and exhaustless domains of nature, as bee culture.

For the American Bee Journal.

Upright Ventilation.

Bees have done better this year than they have for several years past. Two-thirds of them died in this county, last winter, on account of not giving them upright ventilation. The frost accumulated in the hive until the bees were frozen, in a solid mass. The first warm day they would thaw and fall down dead, and leave plenty of honey. Some old fogies came to me to know what was the matter with their bees. They died with plenty of honey. I replied, nothing but laziness. Had you done as I told you, you would have had all of your bees now! "Oh," said they, "they died with some disease. I know they did, for they had plenty of honey left. Did not your's die?" "No, not one. I fixed them, as I told you to do. Take off all the honey; then pack the top of the hive with corn cobs, just high enough so your cap will cover them; put 2 one inch holes in your hive, one on each side, cover well, and your bees will be all right next spring, on their sumer stands."

We have quite a large bee firm here. It consists of some 200 persons. They all belong to the Methodist Church. Their church has a very tall slender steple. On their church, about 20 feet from the top are 4 small holes; left for ventilating the steple. Above those holes the cross timbers are so close together, that I can scarcely get my hand through. Above this is a large space 4 feet at the bottom, and running up to a sharp point. A large swarm of bees have been working all summer. How long they have been there I don't know; the members all, claim to be members of a new bee firm. H. FAUL.

Council Bluffs, Iowa.

For the American Bee Journal.

My Method.

The philosophy of my method I believe to be this: The bees when hived in an empty hive, want brood-comb first; and being cramped for room, starts combs in little bits near together, along all the triangular guides which they join at the edges before they have extended them so far as to get them materially diverged from line. I have sometimes, (though seldom) had them wavy, and if the frames are not properly spaced, they will build to one side, and get irregular. The difficulty which causes this is having established their brood nest; the next thing is, to store, for which they need room.

Having filled the cells adjoining the brood, they lengthen the cells next a vacant space, before starting comb on the next frame, so that they have to set off a proper distance. Or having started rightly, in extending comb edgewise, they come to the lengthened cells, and diverge from line, to avoid crowding, and obtain room for full length cells next to lengthened ones. This tendency to lengthen cells, adjoining a vacant space, continues; and the further they go, the worse they get.

Of course as soon as they get well started they should have additional room; but here comes another difficulty, growing out of this same tendency to lengthen cells for storage. In building on the frames inserted between those started, they are apt to come in contact with those lengthened on the adjoining frames, and hence have to make short cells to preserve space between combs, which gives irregular surface. This has to be remedied by so placing them between straight combs as that they will properly lengthen the short cells on the new comb; but by inserting the new frames as needed between broad combs or sealed cells, this difficulty is largely avoided.

I made the discovery accidently by placing two very large swarms in one hive in a hurry, when they were coming fast, and the next day having some friends call, and wishing to show them what my big swarm had done, I opened them and found the state of things desribed above. The hive used was six and one-half deep, 14½ in width, taking 21 inch frames and they had as stated above, stacked combs close together the whole length of all the 10 frames.

This was a grand success under difficulties, which I had found so great that I had begun to think camb frames and modern bee-keeping a humbug. I acted on the suggestion and had no farther difficulty; observation and reflection have convinced me that the theory I have given you is correct. At all events the method succeeds.

H. HUDSON.

Douglass, Mich.

For the American Bee Journal.

Queen Raising.

I promised to give more facts on queen-raising, in my last letter. This is the main point in bee-keeping; if every bee-keeper sells full colonies or queens it would give them a better reputation. If you send for good stocks of course you want a young and profitable queen. If I pay the owner the price he asks for good colonies, has he a right to send it with a worn-out queen, that I have to try 8 or 10 days or a month to raise; when I have paid for a good hive. Such men should be published through the JOURNAL, so that strangers may know them.

After every stock had a good queen, they became strong and yielded over 5 per cent; I had from one good swarm, in 8 Langstroth hives. Sold 2 queens ($5) and about 9 gallons of Extracted Honey, at 25 cents per lb. I had a swarm that was weak in the spring that did not give quite so much.

JOHN P. GRUNTHER.

Theresa, Wis.

For the American Bee Journal.

The Tulip Tree Again.

On page 223, October No. of the AMERICAN BEE JOURNAL, I notice an article from the pen of J. Ralston Wells, upon the value of the tulip as a honey producing tree. As he says there are many making inquiries how they may be obtained, I will take this method of informing the readers of the JOURNAL that I can furnish a few hundred of the young trees—1, 2, and 3 years old. The tulip tree will not grow from cuttings, but lives readily when transplanted, from 1 to 5 years old. Older than two years would be unhandy and difficult to ship long distances. W. E. FREEMAN.

Olustee Creek, Pike Co., Ala.

For the American Bee Journal.

Alsike Clover in the South.

Having had several years' experience with this specie of clover, I trust some of my conclusions may be of value to a portion of your readers.

Alsike produces more honey than white clover and continues much longer in blossom. The honey is of a good quality, a little higher colored than that of the white clover and not quite so delicate in flavor. It branches like red clover, and the same stock will often have at the same time many ripe heads, and even to the embryo bud, so that when the crop is cut for seed, the straw makes a second quality of hay if well cured. Horses, cattle and sheep are fond of it for hay or grazing.

I sow about five pounds of seed to the acre, with the same quantity of timothy. It makes better hay than the red clover, though not so productive. It does best on moderately moist soil. If grown with timothy for seed, the latter should be cradled before the Alsike is cut. Sorrel and other small seeds should be carefully sifted out After Alsike is threshed out, but before it is ground out of the hull.

In my opinion every bee keeper should try Alsike clover for his bees. I say try, for I am not confident that it will succeed in sandy soil at the South. E. NEED.

For the American Bee Journal.

Whistling Down Swarms.

Mr. George T. Hammond, of North Bergen, N. Y., (a successful and progressive bee-keeper) tells me that he practices whistling down swarms, and has never failed in causing them to alight, since becoming acquainted with this method of arresting their flight. His attention was first called to whistling for them, in this way. A neighbor had a swarm that were flying over. Being asked how he stopped them, he replied "the boy whistled them down," but would or could not tell how he did it. Mr. Hammond says he did not take any further notice of it, till the subject was again called to his attention by reading in the proceedings of the Bee-Keeper's Convention, that a gentleman stated that he could control a swarm of bees on the wing by whistling to them, and by request gave a specimen whistle, which was pronounced by the reporter to be indescribable upon paper.

My informant, at the proper season, practised and hit upon a sound which seems to have the desired effect and can be tested by any person of ordinary whistling abilities. As I heard him repeat the sound I should describe it as not being very peculiar, but a brisk modulated repetition of whist-whist-whist.

Now if this whistling theory is a success, how superior it is to all other known methods for stopping absconding swarms. What easy control it would give to the apiarian over his bees, during the swarming season. How easily "Novice" or P. G. could have stopped that swarm of Italians led off by "Giantess." This running through the house, pell-mell kicking over the stool and scalding the cat, in your efforts to pull the looking glass from its hangings, meanwhile one of your largest swarms may be doing its level best for the woods—and then when you think you have your glass in position find the sun does not shine, or is disappearing behind a cloud, is not just the thing to preserve that mental equilibrium said to be so necessary in handling bees.

My object in writing this article is to broach the subject, and get reports from others who have tried the experiment; as I cannot confirm Mr. Hammond's success by my own experience, not having any confidence in my whistling abilities to imitate the call of the queen, yet think if I were again to go through the past season's labors in the apiary I should attempt some tall whistling when seeing swarms making for the woods, and I without means to hinder their progress. C. R. ISHAM.

For the American Bee Journal.

Dysentery Again.

Bidwell's paper, as printed in the November No., will create a general row among bee-keepers, and no doubt new ideas and profitable experiments will be discovered. The discovery of bees flying under glass will be of great importance for bee-keepers who are in a very windy situation, like myself. Last year every one wintered his bees so well out-doors and in cellars that no complaints about dysentery were heard off; but I fear very much if Bidwell's plan, when tested with bees having the dysentery, may yet prove a failure; because the space being so small they will smear each other so much that nearly all will be soiled. I find in time of dysentery that there is always a great loss of bees, partly through weakness and by the smearing of their wings in their first flight.

Last year my bees soiled the snow but very little, and the consumption of honey was very small. By the burning of my farm, and the lack of time in October and November to feed them, I was compelled to feed every week all through the winter; so every Saturday afternoon I examined frame after frame, as in mid-summer, to see what honey they had, to prevent starvation.

Sugar syrup in bulk they would not take, I must coax them in every manner. By care and continual feeding they came through in good condition, although they had to coil over the top of the frames once a week, and I got a good deal of stinging too. No man was ever bothered so much with his bees during winter. Had I given strained honey it might have been quite different. Novice mentions that dysentery is often attributed to the quality of the honey. That is my opinion and experience.

In Belgium the honey season is over with August; many bee-keepers instead of killing them put several stocks together, these new hives are sent to the province of Antwerp where one-half of the State is very barren, but a low brush is found from which the bees gather fall honey. Some years, in wet seasons they gather very little, and some years enough is stored to winter on. Now many bee-keepers, and myself among them, have never been able to winter a colony without dysentery. It is a common saying that the honey of this flower is too hot to winter them. I believe those bee-keepers do not know what they say; yet

dysentery is a fact too well known to be disputed. Ventilation, or warmth, have nothing to do with it, because they are set in their straw hives in the same rows with the other hives, and the ventilation and warmth is the same for all. This is a clear proof that "Novice" is right in saying that the nature of honey has much to do with it.

A Question, I should be glad to know—Does any bee-keeper's experience in warming his bee house, during a cold season in April, with his hives on the shelves, advise such treatment? Will any one give his experience on this matter in the BEE JOURNAL?

Will Gallup and Adair gives us a report of their apiaries with their 4 ft. hives?

Wequoick, Wis. JOSEPH DUFFELER.

For the American Bee Journal.

Bees in Aroostook Co., Me.

We have had a very poor seasou for bees in this county, the past summer; and the causes are very obvious. Last winter there was but very little snow and in consequence the spring frosts pulled up and killed all the white clover which is usually abundant in this vicinity, and from which our "little pets" gather the most of their honey. Leaving them not much else to gather from except the blossoms, which are not very plenty in this section, and dandeloin. They were prevented from gathering honey from them by the excessive rains, which kept up a continual spatter all through the months of May and June, leaving nothing for them to gather until they got at a species of golden rod, from which they gathered a small amount. Very few colonies have gathered enough to winter on. Scarcely a hive has swarmed, and the hives on an average are lighter than they were last spring. Hundreds of colonies will swarm the coming winter if not fed.

This county has been, for the last ten years, the honey garden of Maine. But this year we are having a big share of "poor luck." If we keep our bees on "luck," this winter, I am convinced we shall lose most of them. It is so strange that those who keep bees do not inform themselves on bee culture, when they have a chance to take a paper like the AMERICAN BEE JOURNAL, that will repay them the subscription price every month, and scarce a volume since it was established but would pay a bee-keeper to lay by at five dollars each, for future reference.

Houlton, Maine. R. S. TORREY.

For the American Bee Journal.

Breeding Peaceful Hybrids.

After carefully studying the natural history of the bees for some time I have come to the conclusion that the disposition of the workers depends altogether on the drones, and that there can be a cross made between the Italians and blacks, which will produce a race of bees as gentle as the pure Italians.

I began bee-keeping with a few stands of Italians and hybrids; the latter being the progeny of Italian queens which had mated with black drones. These I found to be very cross, which is the reported experience of all who have kept them. The Italians were, as represented, gentle.

Last year, some of the old Italian queens, whose worker progeny were hybrids, were superceeded and the young queens that were raised from them mated with Italian drones. This spring I found that the progeny of these queens had wintered better; also that the queens began to lay earlier, and were more prolific, and consequently were the first to raise drones and become strong enough to divide. These hybrids, unlike the others, were as gentle as the Italians. Several of my young Italian queens which I raised this summer have mated with drones which are the progeny of these queens, and the workers from this cross are also gentle.

I have never owned any black bees, but observing my neighbors, I find that the pure blacks are always cross compared with the Italians, but the progeny of a black queen which has mated with an Italian drone is gentle.

Thus I conclude that the worker bees which are the progeny of an Italian queen, a hybrid queen, or a black queen which has mated with an Italian drone, are gentle. Those who are the progeny of an Italian queen, or a black queen which has mated with a black drone are cross. Those which are from an Italian queen and a hybrid drone are gentle.

I have not had a chance to make any observation concerning the disposition of bees that are from a hybrid queen which has mated with a hybrid drone, but if my conclusions that the fighting qualities of the workers depend on the drone are correct, they will be as gentle as those of an Italian queen which has mated with a hybrid drone. N. A.

For the American Bee Journal.

My Experience.

MESSRS. EDITORS:—I am not in the habit of writing anything for publication, but as I am deeply interested on the bee question, perhaps a word from me would not be amiss. I am now 64 years old; have been raising bees since 1849; but my love for the little insect, whose life is so suggestive of industry and wisdon, is unabated. Last winter I lost between $300 and $500 worth of bees. Since that time, the season has been better, and I have averaged $25 to the hive. Have been raising the Italian bees for 4 or 5 years. Am well pleased with them. I see them very busy sometimes, when the black bee is idle. I have sold the Italian bees for $30, when the black bees could have been bought for $5. I have been using the Langstroth hive since 1856, and think it the best I have ever seen.

Your JOURNAL is invaluable. I have been a subscriber to it from its infancy up to the present time. Its visits are like the visits of an old friend—always welcome. I wish you success. JOHN C. DAUGHERTY.

Owingsville, Bath Co., Ky.

Always have the cheerful rays of the morning sun fall upon your hives; but contrive to throw a shade upon their front for a few hours in the middle of the day, when the weather is very hot. Such a shade will be grateful to your bees.—*Nutt.*

For the American Bee Journal.

Honey Producing Plants.

We give a notation of honey-producing plants in the vicinity of Aurora, Marion Co., Oregon, for the year A. D., 1874;

FEBRUARY.

The willow was in bloom from Feb. 14 and continued to April 18.
The varionica from Feb. 16 to April 24.
Chick-weed, from Feb. 16 to May 20.
Hazel, from Feb. 28 to April 8.

MARCH.

Meadow-cress, March 16 to April 24.
Cedar, from March 16 to April 8.
Brush unknown, (No. 1) from March 20 to April 24.
Balm of Gilead, from March 20 to April 8.
Salmon berries, from March 28 to May 4.
Dandelion, from March 30 to July 12.

APRIL.

Peach, from April 1st to April 28.
Wild currants, from April 1 to May 18.
Oregon grapes, from April 4 to May 3.
Gossberries, from April 4 to May 10.
Plumbs, from April 1 to April 28.
Cherries, from April 9 to May 14.
Bear, from April 10 to May 6.
Soft maple, from April 10 to May 20.
Common currant, from April 11 to May 14.
Apples, from April 16 to May 18,
Prunes, from April 16 to May 3.
Vine maple, from April 18 to May 24.
Raspberries, from April 22 to June 3.
Iris grass, from April 23 to June 6.
White clover, from 25 to Oct 12.
June berries, from April 25 to May 22.
Sheep sorrel, from April 25 to Sept. 2.

MAY.

Oregon crab apple, May 3 to May 20.
Blackberries, May 6 to July 20.
Brush unknown (No. 2,) from May 5 to May 28.
Barberry tree, from May 3 to July 10.
Red clover, from May 12 to Sept. 30.
Man-in-the-ground, from May 14 to July 25.
Thimbleberries, from May 14 to June 30.
White swale flowers, from May 14 to July 10.
Wild and cultivated camomile, from May 14 to Aug. 18.
Huckleberries, from May 10 to June 3.
The mallow flower family, from May 10 to September 25.
Laurel, from may 17 to Jnne 20.
Alsike clover, from May 18 to September 1st.
Snowberries, from May 18 to July 16.
Brush unknown (No. 3.) from May 18 to June 20.
Thistle, from May 18 to Aug. 10.
Roses, from May 20 to July 25.
Umbelliferous family, from May 20 to August 10.
Salalberries, from May 23 to July 20.
Milk weed, May 28 to September 12.

JUNE.

Lobelia, from June 1 to July 30.
Flowers in swamps (unknown), from June 1 to August 15.
Common grape, from June 8 to July 10.
Spirea, from June 8 to July 20.
Heal-all, from June 15 to July 25.
Indian arrow-wood, from June 15 to July 25.
A little bell shaped flower (name unknown), from June 15 to July 24.
Elder, from June 18 to July 26.
Cat mint, from June 18 till heavy frost.
King's tapers, from June 22 till heavy frost.
Weeds in bottoms (unknown) from June 28 to September 1.
Various kinds of the mint family, from June 25 till frosts.

JULY.

Blackroot, from July 2 to August 25.
Corn, from July 8 to Aug. 20.
A vine in bottom (unknown) from July 12 to September 1.

AUGUST.

Ripe fruits commence, such as apples, pears, plums, etc., which bees work on when first pierced by birds or other animals; some last to winter.
Spanish needle from August 10 till heavy frosts appear.
Farm products that produce honey are sucessfully raised here, such as rape, buckwheat, etc.

SEPTEMBER.

A number of the above named flowers bloom again after the early fall rains and continue till the frosts kills them.

J. W. Wills.

Wintering Bees in the South.

The great object of bee-keeping is the production of honey, and to promote this object successfully, is to provide suitable homes for the bees, and give them suitable care, both winter and summer. Man cannot change the season or the instinct of the bee, but he can provide suitable homes for them.

The necessary requisites for successful wintering are 1st. Plenty of good honey, not too much. 2d. Sufficient warmth, 3d. Pure air and dryness. Bees having a supply, and being provided with the above requisites, there need be no fear but they will winter successfully. They will generate their own warmth in the coldest weather. Should they remain on their summer stands they will get pure air, which is a great necessity to their prosperity. In the north it will be better to protect from the cold, by placing the hives against a tight board fence or a building. This will break off the bleak winds, and with a few boards to protect them from the sun, they will winter finely, Have a small upward ventilation, but guard against a current of air passing through the hive, and keep them dry.

Bees need but little care, comparatively speaking, to what they do in the North or West. They should have good honey and plenty of it; protect from the sun by giving them some cheap cover, which will prevent them from coming out every warm day; also it is a great saving in the consumption of honey. Bees need no matresses to absorb the moisture arising from their breath. Where they can have a fly as they do in the South every few days, there is but little frost accumulates in the hive. The greatest destruction to the bees in winter is the dampness which accumulates in the hive, which occurs when a period of cold weather sets in for several days or weeks, without a warm day or two to give the bees a fly.—*Bee World.*

For the American Bee Journal.

Failures in Safely Wintering Bees—The Proposed Remedies.

There are about as many plans proposed for the proper wintering of bees as there are writers, and yet every winter shows the utter failure of nearly every plan. We have a great deal of theory, but very few facts. The few facts published are generally accounted for in the most unreasonable way. An old and much respected acquaintance once told me that a neighbor of his had lost all his bees. The reason was (he said) an old uncle had died in the family, and they forgot to tell the bees. The two circumstances did actually occur. His mistake was, supposing that one resulted from the other.

An old bee-keeper, and an intelligent one, lately asserted that uncapped honey was poisonous. His reason for saying so was that he had heard so, and once he became sick after eating uncapped honey. So with the failures in wintering bees. A few facts are observed, but they are supposed to be connected together in a very illogical manner. Thus, water is often found in the fall or winter in the hive, or the mats if used are partly saturated. Its presence is accounted for by supposing that the bees evaporate a large quantity, which afterwards condenses on the combs, and sometimes on the bees themselves, causes mould, disease and sometimes death. The mats are often shown, saturated, as an evidence, but my experience is that the moisture comes through leaky roofs. My blankets are covered with tarred paper, lying close upon them, yet the blankets are dry in damp weather, because the tarred paper sheds the rain.

Novice feeds a few swarms on sugar syrup, after extracting all the honey gathered in the fall, and they live through the winter. Many bee-keepers therefore conclude that all fall honey is unhealthy for the bees, and that they would have died, if they had not been supplied with sugar syrup. Straightway they adopt the infallible remedy of pumping out all fall honey and feeding up with artificial food. One or two winter's experience will kill that remedy.

Another bee-keeper says he does not want more than a pint or quart of bees to winter with. The difficulty here is to measure a pint of bees. It would be an interesting sight to see a man stuffing bees into a measure. How tight should he pack it, or rather how tight *would* he pack it. The trial would not last long and he would be as uncertain at last how many bees make a pint. I think he would find that a great many had *points* if they couldn't make a *pint*. The lookers on, if well protected would enjoy it.

Another bee-keeper surrounds each hive with a large box, and packs between with saw dust, straw, dry earth, chaff or other good non-conductors. Another puts his swarms in a dry cellar, moving them out and in on warm days to cleanse themselves as he imagines they must, and talks about their being swelled up with the enforced confinement of the fœces within their bodies. Just imagine a dog swelled up to double size because he could not find a convenient door-step on which to make a deposit, or a man wailing about with an apparently sudden attack of dropsy, because our city council has not provided a public water-closet.

Others build special houses to winter their bees in. Still others put on their hives, blankets and mats with special provision for ventilation, in the face of the facts that the bees, when they can, will stop air-tight every crevice except their entrance hole. If another hole is left two or three inches in diameter perhaps they will not close it because it is too big a job, but if the owner will put a piece of wire gauze on it, they will plaster it all over and make it air-tight.

The blankets and mats appear to be good, because they are non-conductors and not because they ventilate the hive or absorb the moisture. The latest, and therefore most approved, plan, is to winter bees under a cold frame, or, as the phrase is, *under glass*, That will have a run for a winter or two. A short time ago one of my acquaintances made an experiment which appeared to be successful. He surrounded one of his hives, early in the spring, with fresh manure, thus making a hot-bed of it. His intention was that the extra heat should start the queen to laying and aid in hatching out the brood. In this he succeeded very well. With a view to public benefit, he wrote a circumstantial account of it to a certain person who being of a volatile, sanguine, harum-scarum disposition immediately procured several loads of manure and buried up his whole apiary of fifty hives more or less. He published, from time to time, how he was progressieg with this great invention, but suddenly his proclamations ceased and nobody knows from him, how it resulted. They only know that as usual his bees did not winter well or as it is now fashionable to say they did not *spring* well.

In considering the subject of wintering bees a good plan is to examine the condition and progress of the life of a swarm in a state of nature, and to ascertain what instinct teaches them to do. Art can only slightly improve on nature but cannot entirely change it. Bees in nature are generally found in hollow trees. It is not probable that many accurate observations have been made, but the best knowledge we have, is, that they select a home in the hollow of a tree, which hollow has resulted generally from decay.

These hollows are from one foot to perhaps fifty feet in length and of different diameters. The walls are generally in a decaying condition, being spongy, and full of air cells, thus making a first rate non-conductor. Here they work from year to year, no honey being taken away by man, comb accumulating every year until the whole cavity is filled and if the seasons are good the honey also accumulates, so that when a bad season happens they will have probably the surplus of several years to tide them over. If the cavity is large they probably never swarm, their numbers will increase according ty the laying capacity of the queen. These several conditions always ensure large swarms and plenty of food. In such hives where is the ventilation? If there should be a hole above, which would happen maybe once in fifty times, such strong swarms would live in spite of its ventilation, but they would stop it up if possible.

If there is any superfluous moisture it may be taken up by the decaying wood lining the cavity, but there is probably no moisture. In human life there is so little extra moisture, that it requires accurate experiments to find it.

In what case of animal life does the moisture emanating from their bodies, condense to such an extent as to dampen and mould their beds? Then why should a swarm of bees be so exceedingly productive of water. From my reading, from conversations with bee-keepers and from my own small experience, I think I can point out the principal causes of our want of success in wintering.

The extended use of frame hives makes it so easy to take away honey that they are often left with insufficient stores. It is so easy to divide or swarm artificially, that in the fall our swarms are often too weak in bees, to keep up sufficient animal heat for winter. The beauty of the Italian queens and the apparent prosperity indicated by the *number* of swarms, hinder us from doubling up, consequently we are very likely to go into winter with a large number of weak swarms with insufficient food, and come out in spring with one half or one tenth of the number of weaker swarms in starving condition.

At the Pittsburgh Convention, on the discussion of the question whether it would pay to carry bees to a warmer climate to winter, bringing them back in the spring to this neighborhood, several old bee-keepers seemed to think that such a process would be useless, because nature provides that in very cold weather bees become torpid, and in that condition consume almost no food, and that the difficulty of wintering is not directly from the extreme cold but from the lack of means of resisting the effects of the cold.

My conclusion from all the foregoing is, that, if swarms are strong in numbers of bees in the fall, and have plenty of honey, all the difficulties of wintering would vanish. Therefore bee-keepers must avoid extracting honey to an extreme point. If they multiply swarms in summer beyong propriety, they must reduce the number in the fall by doubling up or joining to-gether.

It is much better to lose several queens in the fall, than to lose both bees and queens in the spring. If the swarms are strong in winter and have plenty of honey, all experience shows that the dangers from want of ventilation, extra moisture &c., are very small snd very remote. Use as many blankets and other non-conductors as you please they are generally very useful, and strong swarms can stand a good deal of ventilation if your ideas run strongly in that direction.

Cincinnati. O. H. W. S.

Standard Frames.—S. D. McLean, in the *Bee World*, says: "The size of a suspension frame I use in my own apiary is fourteen and one-quarter by nine and one-quarter inches, though not the size I prefer. Were I to commence anew I would make my frames fifteen by ten inches, exactly, outside measure, with three-fourths of an inch extension at each end of top bars to rest on the rabbets of the hive. I suggest that size to the advocates of a standard frame, as a compromise among the many now in use. The length would be about a medium between the Quinby and the Gallop frames—the longest and the shortest frames made—and the depth would be amply sufficient for brood combs, and not so deep as to be liable to swing together at the bottom or have the wavy combs in them,"

For the American Bee Journal.

Answer to Mrs. Spaids.

If the copy books of the Chicago Honey were not burned, Mrs. Spaids would see that her answer to my inquiry of what they were paying for fall honey, was simply, "We are paying fifteen cents,"—without any condition of its being good. And as to my saying it was *nice*, I made no such assertion. When shipped to them, it was candied. They had it in their posession for several weeks, and when it was turned over to Perrine, it was thin and watery. How the change come, I cannot say. Has anyone ever known candied honey to turn thin and watery? My advise to bee keepers, and what I intend to do in future, is to keep the fall honey for winter supply, or increase of bees, and sell only the summer honey.

William W. Bird.

Napoleon, O.

Honey Dew.—A. H. R. Bryant, Kaufman, Texas, says: "Some two years since I was attracted, by the hum of bees, to a box elder that stood in my yard, and when I looked for the cause, I found not only the leaves of the tree covered witn honey dew, but the limbs, and also the weeds and the grass underneath, liberally covered with the honey dew. On my first examination I did not find the aphis, and came to the conclusion that it was sure enough, honey dew from the atmosphere; but on a closer inspection, I found the young, tender twigs—which are very green—litterly covered with a very green aphis, (plant louse), hence the abundance of the so-called honey dew, that was litterally dripping from the tree to the weeds and grass below,"

Traveling Apiaries.—The New York *Tribune* says; "Some of our apiarians are talking of a wagon with frames for a large number of hives, that can be moved about from one location to another. The benefits claimed are to take advantage, first, of the maple and willow blooms; next come back to orchards and white clover; then off to the forest for the basswood and other flowers; then for the blossoms of the tulip tree, and finally back to the fields of buckwheat and flowers of Autumn. The plan has been pursued in a small way for some years."

In the ordinary glass honey boxes now in use, it requires about 35 cubic inches to hold a pound of honey. Larger boxes lose less space, and hence require a less number of cubic inches. Thus a box 4x5x6 inches contains 120 cubic inches, and, therefore, when well filled and sealed over, holds about 3½ pounds. A 5lb box requires about 33 inches to the pound, and a 10lb box about 30 cubic inches.

I get rid of fertile workers thus: Change places with a strong stock and let them remain a few days. Then open the hive, and if no eggs are found, I introduce a queen. I succeeded once in rearing a queen, having her fertilized, and remain in a stock with a fertile worker, and she did well. It was a stand of pure Italians, very quiet and peaceable.—*W. H. Nicholson.*

For the American Bee Journal.

Hives for the South.

MESSRS. EDITORS :—Your correspondent "Edgefield," of South Carolina, wishes me to give a description of the hive I use and recommend for our climate. Now there are hardly two bee-keepers that entertain the same opinion in regard to the arrangement and construction of hives. What suits one does not suit another. While it is of the utmost importance to have our bees in a good hive, large yields of honey (other conditions being the same) are less dependent upon the sort of hive than upon right management of the bees.

While I believe it is impossible to construct a hive against which no objections can be urged, I think they can be made so that very little more need be desired. In making a hive for the South, an observance of the following principles and laws seem to be very essential :

1. Perfect adaptability of the hive to the instinct and habits of the bee.

2. Simplicity. All parts, including frames, must be so arranged as to admit of great ease in opening and closing. There should be no parts about it that cannot readily be gotten into, and examined when necessary. And all these arrangements must be made with special reference not to crush any bees, and to disturb them as little as possible.

3. Enlargement or contraction of the brood chamber at pleasure, so as to suit the size of the colony. There is much diversity of opinion in regard to what should be the size of the brood chamber. I find about 2,000 cubic inches to be a good size for a strong colony worked for box honey ; if extracted, I prefer it at least 4,000 cubic inches.

4. Shallow frames, not deeper than the Langstroth. Small frames are desirable in the surplus department. These should be arranged immediately above or near the sides of the brood chamber. If boxes are preferred, place them the same. This is very important.

5. Good ventilation. In our climate we need the top of the hive to be kept well shaded and cool, particularly if we desire box honey. If this is neglected, the heat is often too great, and prevents the bees from working in boxes even in the midst of an abundant yield of honey. Shallow frames can be kept cooler than tall deep ones. Large roomy caps with ventilators attached are most excellent.

The hive I use is a modification of the Langstroth. The frames are 16¼x8⅝ in. in the clear ; open at top, with the exception of each end which keeps them equally distant apart. They are made to hang true, and rest on the edge of a strip of metal. I use no nails, wires, etc., to keep them apart at the bottom. Allow a half inch space around the ends and bottom of frame. Make all hives with tight bottom boards. The body of hive is 16 inches wide in the clear, with a division board. By pressing this board back against the side of hive, ample room is gained so that frames can be removed with great ease. There is a ventilator on the side of hive near the bottom, next the division board. This produces an upward current of air between the side and division board, and also around the honey-boxes, through the cap.

My honey boxes have small frames in them which are in direct contact with the brood chamber, with no honey board between. When a colony is to be worked for extracted honey, I prefer them in long, one-story hives with 20 or 30 frames of the above size. Entrance only at one end. Keep the frames covered with a "honey quilt" made out of gunny bagging. Hive is covered with a shallow cap with ventilators at both ends. With these hives the bees do not hang out in the hottest weather.

For the information of all concerned I will say that there are no patents on the above described hive. J. P. H. BROWN.

Augusta, Ga.

Voices from Among the Hives.

JOHN L. DAVIS, Delhi, Michigan, writes: —"We commenced this season with forty-seven hives of pure Italian bees, and have obtained 2,500 lbs. of comb, and 500 of machine honey, and sixty-six new swarms or nucleus. We sold seventy queens, and several swarms also. By the middle of September every hive, both large and small, was crowded with honey, except three or four that were hived about the 8th or 10th of September. While trying to obviate, or avoid, the cutting of comb in queen raising, we have discovered that we can, with a pointed instrument, remove the worker larvæ from the worker cells, and introduce them into incipient queen cells, and the bees will raise them into nice queens. This we call the Davis transportation process. It can be done in any queenless colony, and in very populous ones that do not swarm when they should, which is the case with black bees, frequently."

W. D. WRIGHT, Knowerville, N. Y., writes :—"The past season has been an excellent one for bees in this section, and honey is very plenty, and low in price. Basswood yielded more honey than for several seasons past. Bees swarmed abundantly in general. To have had such poor success for several seasons past in wintering bees on their summer stands, that I concluded to try some other way. I have built a repository similar to Novice's. Size 12x14 feet. walls 12 inches thick, filled with saw dust, material ; cost about $125.

If I fail to winter bees successfully in this. I will at least have a good building in which to extract and store surplus honey."

M. H. MILSTEN, Frohna, Mo., writes :— "I commenced in the spring with 21 stocks, most of them very weak ; increased to 25 strong ones. From these I took almost 1,400 lbs. of extracted honey, besides running my farm. I had the pleasure of visiting some apiaries this fall, one of which was Dadant & Son's, of whom I purchased a small stock of bees with an imported queen."

THOMAS FROST, Gillespie, Ill., writes :— "The past season has been very dry till August. The rains then started white clover and other blooms so that bees filled their stands, and some of the stronger worked in boxes. The bees are all black in our neighborhood ; the season was very poor till the fall blooms came on, then it was only an ordinary season."

L. C. Axtell, Roseville, Ill., writes:—"Bees have done very poorly in this vicinity for the past three years. Nearly all the bees that have had no care have died off. I have been keeping bees for two years. Last year they had no honey harvest, I fed considerable. I think their increase paid me for their food, and the labor of taking care of them. This year no harvest but buckwheat, which yielded bountifully. From 24 colonies I got 23 swarms and 1500 lbs. extracted honey, which retails at 25 cents per lb. I do not know of a natural swarm that will live through the winter."

J. B. Rapp, Owsnsville, Ohio, writes:—"I am very much pleased with the American Bee Journal; you can count me as one of your life subscribers. I would not do without it if it cost twice or three times as much as it does. This is a poor honey section. Our main dependence is white clover, and the drouth usually cuts it short. I have thirty colonies, about half of them are Italians, and all but one are in movable comb hives. They have an abundance of honey, and although a part of them are not as strong in numbers as I would like, yet I think I can winter them safely. I carried twenty colonies that were much weaker and had but little honey through last winter and lost but one, and that starved. I bought a weak stock at a sale, this month for ten cents. A neighbor gave me two last evening; all were good swarms when put in hives. Laet spring I bought four good stocks for $10

L. W. Harrington, Clyde, Ohio, writes:—"The American Bee Journal is the best paper published. In it farmers can find information that they can rely upon, and not too much theory and wild-goose speculation; and bee-keepers that make a specialty of the business, can procure information that is practical. I have stored my bees in my grainery and barn, have given them ventilation above and below that they may know that they are not prisoners. This grainery is not very cold as it is double boarded, and I make this part dark."

Albert Bull, Bloomfield, Ont., writes:—"I feel thankful for past instructions from your valuable paper, hoping that I may receive more. I have done well this season with my bees. I have 48 swarms. I extracted 4,350 lbs. from 31 swarms, commencing July 29, and finishing August 18."

G. E. Corbin, St. Johns, Mich., writes: "I observe on page 251, of November number of American Bee Journal, that L. F. asks: 'Why do bees *always* use the left hand hole for ventilation?' Being something of a yankee—which I suppose implies one with 'an inquisitive turn of mind'—I should like to reply to his question, by asking another: Why do shads 'always' climb sign-posts, 'tail first?'"

B. Franklin, Franklinton N. Y.:—"I lived in Iowa two years, I was in the bee business there, bought 9 hives, paid $60; kept them 2 weeks, brimstoned them, sold the honey in Davenport, lost $35,00, went to Wisconsin, came back here, started in the business and kept it up. Came out with 47 hives last spring, some very weak ones increased so that I have 86 now, and have taken 3000 lbs. of honey this season 2150 lbs. of it box honey in 2 lb boxes, the rest extracted. I have a very simple hive; my frames are 14½ by 10½ inside frame, use from 8 to 22 frames in a hive; they open like the leaves of a book, stood up on end. I have seen a great many different kinds of hives, but I have not seen one that I can open and change combs, or do anything I want to, as in this hive, for boxes. I put boxes on the back end of frame and on top, some on three sides and on top. I have 15 hives that I box on 3 sides, these I winter out-doors with chaff around and on top. I wintered some 50, which came out in splendid condition, comb all bright and nice. I see some are in for a standard frame 12x12. Mine is near that; I have no trouble to get straight combs without elevating the hive, either. I have a thin strip in the top bar sometimes they will build the comb over half way down, before they will touch the top bar. I have transferred quite a number of common hives and I find this size frame is just right. I don't have any trouble to get the combs in all right."

M. C. H. Puryear, Franklin, Tenn., writes:—"I do not keep bees for profit, but as a luxury; have fourteen colonies, give the increase to an old friend who takes charge and manages them, who is engaged in bee-business as a support in old age. I give him my Journal: he files it away and prizes it next to his Bible. I have no white family: all on the farm except myself, are negroes, most of whom belonged to me before the war. After supplying the family with honey, I distribute the surplus gratuiously among my neighbors. I have a substantial and permanent shelter over my bees, which protects them from the cold and rain and snow of winter. I never move them from their summer situation and have never lost a colony from exposure to the winter's cold.

Henry Fauls, of Council Bluffs, Iowa, makes the following exhibit:—He says "a lady can take care of ten swarms, with less labor than is required to take care of an ordinary lot of house plants. Faul's number of swarms last spring was nine; valued at $10 per swarm, $90. The increase was six swarms—total fifteen swarms. He sold eight swarms for $80; two hundred and forty-one pounds of honey, at 35 cents per lb. $84.35. He saved for his own use thirty pounds valued at $10.50. making a total realized of $174.85. He has seven swarms on hand valued at $70, making $244.85, and the original cost being $90, leaves Mr. Fauls a net gain of $154.85."

M. Vogle, a pioneer at the head of Pine Lake, Mich., writes:—"The American Bee Journal is a very wecome visitor at my house. May it prosper forever."

John L. Crabb, Onawa, Iowa, writes: "I am highly pleased with the consolidation of the National with the American Bee Journal. I commenced last spring with eleven stands and increased to over thirty, and took several pounds of surplus honey, both extracted and box. It would make you laugh to see my honey extractor. It did not cost me anything, only a little time. I can make one in half a day, that will sling a barrel a day."

J. W. McKinney, M. D., Camargo, Ill., writes:—"The present consolidated form of the "Journal," is not to be excelled by any publication on aparian literature in America."

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

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We have received so many flattering encomiums on our Chromo "JUST ONE" from our subscribers who have received it, that they would fill a number if we should attempt to print them. We appreciate the letters, but cannot publish them for want of space.

For the American Bee Journal.

For Lectures.

MR. NEWMAN: Dear Sir, According to your remarks and those of Mr. H. A. King, I see there is room for bids for those who are willing to accept a chance to lecture on apiculture. Put me down on the lowest seat, of that list, "for lectures." My time is precious and valuable and I have engagements now until Jan. 22nd, but I am always willing to do my part with common labor of that class called bee-keepers. I would say to those interested, enquire of Mr. H. A. King, New York; J. W. Winder, Cincinnati, O.; or Mrs. E. S. Tupper, Des Moines, Iowa, concerning my ability, as they are practical apiarians. My terms are R. R. and hotel fare from Pittsburgh, Pa. It takes two days and costs $5 to go to and from my place to Pittsburgh, but call Pittsburgh my starting point. I will go anywhere in the United States, and no other charges unless it requires more than three days from time of leaving Pittsburgh, until I return there; and for all time over that, I must charge $5 per day. I don't ask anything in advance, but the payment of charges must be secured by deposit in a bank of sufficient amount for expenses to my credit, to be paid on presentation of receipted bills of R. R. and hotel. Best to organize in the morning, have a general talk in the afternoon, lecture in the evening and follow by queries. I will stay longer and give practical lessons, at $5 per day. Notice should be given in time, if practical lessons are wanted.

Simpson's Store, Pa. W. B. RUSH.

We have concluded to continue our offer of the beautiful Chromo, "JUST ONE," to all who will pay up at once for the year 1875, and also to all new subscribers for 1875.

One of our advertisers writes us that he gets more answers to his advertisement in the AMERRICAN BEE JOURNAL than from all other papers put together.

We have received a report of the Michigan Bee-Keepers' Convention. It was received too late for this issue and will appear in the February number.

☞ That excellent monthly *Purdy's Fruit Recorder* has been removed to Rochester, New York, where it will be published in future.

We do not give our Chromo when subscribers club with other publications, unless they add 25 cents to the amount of the club subscriptions, and say they want the Chromo.

When a subscriber sends money in payment for the AMERICAN BEE JOURNAL, he should state to what time he thinks it pays, so that we can compare it with our books, and thus prevent mistakes.

To Our Patrons and Friends.

At its last session, Congress passed a new law, making it obligatory on publishers to prepay postage on all the papers and publications sent out from their offices, to take effect on the 1st of January, 1875. Then, instead of individuals paying the postage on their papers at the office of receiving them, the publishers are required to pay the postage in bulk, and charge the same to subscribers, with the subscription price.

We have concluded not to ask the additional price of postage from our subscribers, and hope that they will so far appreciate their having no postage to pay in future, as to send us a new subscriber when renewing for next year.

We send all papers until a specific order is received for a discontinuance, but promptly stop it when notified.

If there should be one of our present subscribers who does not wish to take the BEE JOURNAL for 1875, he should notify us at once, so that we may not waste papers and pay postage too, on any one not desiring to "ride with us" another year.

We ask especial attention to this Notice. It will be quite a tax on us to pay postage on all our entire edition, and any assistance in the way of new subscribers will be duly appreciated and acknowledged.

Mr. H. A. King has disposed of his interest in the *Bee-Keepers' Magazine* to Mr. Cobb, to whom we extend our ☞ for a welcome.

In this No. we issue the Title and Index for Vol. X. By cutting the stitch it can be be taken out and placed at the beginning of Vol. X for binding, and reference. The extreme length of the Pittsburgh Meeting report crowded it out of the last number.

John K. McAllister & Co., are our duly authorized agents for the AMERICAN BEE JOURNAL, at Room 27, Tribune Building, Chicago, with whom any business may be transacted with our approval, and be promptly recognized by the manager of this paper.

☞ We ask our patrons to assist us by procuring new subscribers among their friends or neighbors, and thus increase the usefulness of the JOURNAL. By getting two new subscribers you can get all three for the year 1875 for $5. This may be divided among the three, or you can get your own copy for $1. Larger clubs would make your subscription still less. See club terms on page 28.

Honey Markets.

CHICAGO.—Choice white comb honey, 82@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main st.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO.—Quotations from Stearns and Smith, 423 Front st.

☞ Strained Southern Coast, at 7@10c; Comb, 12@20c; the latter figure for San Deigo, in Harbison frames.

About one hundred and twenty-five tons of honey has been shipped East this season. Our market is firm at 7@10 cents for strained; with some fancy lots at 12@12½c. Comb 18@20c for San Diego. Gold quotations. We have had abundant rains, the grass is several inches high, with some flowers, and a we have had but light frosts, bees are working, and with a good prospect of an abundant season. We shall ship fresh butter East next month. Surely this is a land flowing with milk and honey.

Our Premium Chromo—"Just One."

It is a beautiful design, and one of the finest and richest paintings that has come from the easel of that popular painter, B. S. Hays. The central figure is a beautiful child, (a little girl) who stands by a sideboard loaded with fruits, (apples, peaches, and grapes), one foot is advanced forward, which brings the other on tip-toe—one hand is grasping the edge of the side-board, and the other reaching up for the basket of grapes; and two plump fingers are in the act of closing upon one large luscious berry. Her face is turned toward you, and wears a look of commingled mischief, anxiety and entreaty, and you can almost hear her say, "*Just One.*" This picture is a complete story of the child's temptation, and her struggles to resist, through her awakening sense of right.

To every new subscriber as well as every old one who now pays for 1875, we will send post-paid, a copy of this beautiful Chromo.

Send on your new names and renewals at once and secure it.

Those who have paid for a portion of the year can secure the Chromo, upon sending the balance for the year 1875.

A Letter from the Rev. W. F. Clarke informs us that he cannot now take the lecture field as intimated in our last. His time being fully occupied by other cares.

Specimen Copies.

In order to assist our friends in procuring new subscribers, we will send specimen copies to those that they intend to call upon, if they will send us their names and addresses. It will take but a little time to get parties to subscribe when they see our paper. There are thousands of bee-keepers all over the country who take no bee journal and consequently are uninformed concerning scientific bee-keeping. These should all be solicited to take THE AMERICAN BEE JOURNAL, and the thousands who now read and prize the JOURNAL can easily reach them. Will they not do it? Every one who reads this is specially solicited to act as an agent, and present the claims of THE AMERICAN BEE JOURNAL. We feel assured that they will do it. A few hours time from each, devoted to the interests of THE JOURNAL will add thousands to our list.

To any person sending us a club of ten, with $14, we will send a copy of THE AMERICAN BEE JOURNAL one year *free*, and also the Chromo. To any one sending us a club of twenty with $25 we will send a copy of Worcester's Unabridged Dictionary in addition to a free copy of THE AMERICAN BEE JOURNAL and Chromo.

The *Bee-Keepers' Magazine* of last month said it contained the only report of the late meeting at Pittsburgh, Pa. A postal card from the publisher, states that it was an error to say "the only report." Our report last month was a fuller report of the proceedings than any other paper contained.

The offer of premium queens is now withdrawn, as we cannot supply Spring queens for that purpose.

Mr. J. J. H. Gregory of Marblehead, Mass., has his annual advertisement in our columns. He was the original introducer of some of the best vegetables now found on every table. He comes this year with a new squash, and a number of tempting specialties, some of which are finely illustrated from engravings taken from photographs. The fact that so many of his varieties of seed are of his own growing, is a golden fact for farmers and gardeners.

Books for Bee-Keepers may be obtained at this office.

Not one letter in ten thousand is lost by mail if rightly directed.

Our New Club Rates.

We will send the AMERICAN BEE JOURNAL and the following periodicals for one year, for the prices named below:

THE AMERICAN BEE JOURNAL and Novice's Gleanings for	$2.25
King's Bee-Keepers' Magazine	3.00
Moon's Bee World	3.25
All four Bee publications	5.00
Swine and Poultry Journal	2.50
The Chicago Weekly Tribune	3.20
The " Weekly Inter-Ocean	3.20
The " Weekly Journal	3.20
The " Weekly Post and Mail	3.20
The Western Rural	3.70
The Young Folks' Monthly	3.00
The Prairie Farmer	3.70
Purdy's Fruit Recorder	2.25

Newspaper Decisions.

1. Any person who takes a paper regularly from the post-office—whether directed to his name or another's, or whether he has subscribed or not—is responsible for the payment.

2. If any person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it, until payment is made, and collect the whole amount—whether the paper is taken from the office or not.

3. The courts have decided that refusing to take newspapers and periodicals from the post-offie, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

☞ It will be a source of gratification to us if all those in arrears for the AMERICAN BEE JOURNAL will settle the same as soon as possible. Our increasing circulation vastly increases our regular monthly expenses for paper and printing. "A word to the wise is suficient."

Single copies of the AMERICAN BEE JOURNAL are worth 20 cents each.

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

Our subscribers in Europe, can *now* procure Postal Money Orders on Chicago. This plan of sending money is *safe* and economical.

Subscribers wishing to change their post-office address, should mention their *old* address, as well as the one to which they wish it changed.

Persons writing to this office should either write their Name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

JOURNALS are forwarded until an explicit order is received by the publishers for the discontinuance, and until payment of all arrearages is made as required by law.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, FEBRUARY, 1875. No. 2.

A Scientific Mare's Nest.

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Prof. A. S. Packard Jr., has discovered a mare's nest in the realm of bee-keeping. He announces his discovery in an article headed "The Busy Bee" contributed to the Chicago *Advance* of Jan. 7th 1875. He says. "Notwithstanding the large number of bee-keepers with more or less leisure on their hands, and honey-bees by hundreds of thousands in the United States, and the many interesting questions constantly arising regarding their economy. *The bee has not yet found a biographer on this side of of the Atlantic.* * * "He then goes on to say, it has been reserved for one of the busiest of men to study that busiest of insects, the bee. Sir John Lubbock, banker, M. P., Vice Chancellor of London University, entomologist, anthropologist, fox hunter, and what not,—he it is who has played Boswell to the honey-bee, and "noted the daily and hourly doings of the hero of the hive."

We are exceedingly glad that such a very busy man and one so shingled over with titles and honors, has had the inclination and found the time, to study the habits of the bee, and give the fruits of his investigations to the world. Nor can we have the slightest objection to Prof. Packard's trumpeting forth his praises in *The Advanee*, or any other newspaper, whether secular or religious. But we can't permit him to write up his wonderful Englishman at the expense of truth, and at the expense of the reputations of "the large number of bee-keepers" on the American continent. What a discovery this is of the Professor's that "the bee has never found a biographer on this side of the Atlantic." Where has the learned Professor spent his days, that he has never heard of Langstroth, Quinby, Wagner, Kirkland, Gallup, King, Thomas, Root, Mrs. Tupper, and a host of others, who have played Boswell to the honey-bee, and noted "with a loving minuteness, the daily and hourly doings of the hero of the hive," giving the results of their observations to the public in the shape of books, pamphlets, periodicals, letters and scientific papers well nigh innumerable? His prodigy of acuteness and industry, Sir John Lubbock, has discovered nothing with which all intelligent bee-keepers are not thoroughly acquainted, except those two startling things: *first*, that bees are unable to find honey at all hidden except by accident, and *secondly*, that when a bee happens to light upon honey in a rather by-place, or is carried to it by some scientist like Sir John, it has no means of imparting its knowledge of the store to other bees. Now having seen a pretty full report of a lecture by Sir John, embodying the substance of the pamphlet which has thrown Prof. Packard into such raptures, we find the first of these amazing discoveries if not indeed both of them contradicted by the great discoverer himself. Referring to the pertinacity with which bees pursue honey, he cites the fact that they will go for it even into "sweet shops," where multitudes of them perish. How does this happen, if instinct does not guide them to by-places where sweets may be found, and if one bee cannot, in some way, impart information to another? We can only say that Sir John's discoveries, as announced by the learned Professor in *The Advanee*, are at variance with the experience of bee-hunters and bee-keepers on this side of the great Atlantic fish-pond. In hunting for bee-trees, dependence is put on the instinct and communicative power which Sir John denies to bees, while the robbing of isolated hives, and the gathering of honey in all sorts of out of-the-way places, point to conclusions the very reverse of those arrived at by the scientific baronet.

Prof. Packard remarks, "It would seem that bees have enough intelligence to guide them in conducting the affairs of the hive." Well now, that's very astonishing, especially when you come to think that this was the identical end for which they were created. Its very like observing, with a note of exclamation, that birds, fishes, animals and insects generally, have intelligence enough to fill their respective spheres. Certainly the universe would have been very badly contrived, if this had not been the case.

C.

Seasonable Hints.

The impression prevails that the winter is the best time in which to move bees from place to place. In our opinion this is not correct. We prefer to move them at almost any other time. If it must be done at this season, a warm, instead of a cold time should be chosen, and at the end of the journey it is best to put them at once into a room or cellar quite warm and dark, unless the weather is so mild that if left out of doors the bees can fly.

A neighbor moved ten colonies in a very cold day last winter, putting them, when he reached home, into an out-door building. Many of the bees were lost and the remainder had dysentery, so that but two or three were saved out of all the ten colonies. Had they been put into a warm room until the agitation was over, the loss might have been avoided.

The principle is obvious. The bees when disturbed and alarmed, filled themselves with honey, the cluster was disarranged, and the bees scattered through the combs. In a warm room in the dark, the agitation would have subsided and the cluster become perfect again ; but left exposed to the cold, the scattered bees being full of honey, all perish.

From March to November bees can usually be moved any distance with safety, under proper precautions ; but between November and March, only those who are well informed as to the principles that govern the matter should attempt their transportation. We know bees are moved in winter, and moved safely but it is purely accidental. If they have honey enough and bees enough for safe wintering, the chances are largely against their being moved well. If one knows enough to take the honey from them first, and feed them again judiciously afterwards, it may be done ; though then, all is greatly dependent on the weather. T.

British Bee-keepers' Associaton.

Below we give the Introduction and also the object of the First Exhibition of Bees and their Produce, Hives, &c. held by the British Bee-keepers' Association at the Crystal Palace, at Sydenham near London, last September. We commend them to the careful attention of all those who have anything to do with Fairs and Exhibitions in this country. We have not space for the whole Premium List or numerous entries made, but these extracts give a good idea of its aims. We see that our friend, W. Carr, had a large and interesting collection, as follows.

305. CARR W.—Specimens of Ligurian Queens, Workers and Drones, Egyptian Workers and Drones,—Nest,—Brood comb and Bees of the Trigania or Exotic Bees from Honduras, Hornets, Wasps and Humble Bees with Nests,—combs, Royal cells and Wax scales of the Honey Bee ; combs, showing the ravages of the Wax Moth with the male and female Moths.

Large Paper Cells showing the Bee's economy, Ten large Pen and Ink drawings of the Honey Bee, viz: The Internal Anatomy, The Bee's Stomach, The Queen's Ovaries, The Bee's Head, The Bee's Leg, The Bee's Sting, The Bee's Wing, The Bee's Autennae, The Bee's Abdomen, Showing the Wax Scales.

Hexagonal cells, Showing the Angles enlarged twenty times.

Super of Honey, 87 lbs.

Who will begin now to make a collection of equal value and interest for our Centennial Exhibition ?

We need a change in all our Exhibitions and Fairs, and we are especially glad that at the last meeting at Pittsburgh, steps were taken to avoid premiums for bees, queens, &c. We hope and expect this to be the beginning of better days' as far as exciting an interest in the objects of the Society are concerned.

The following is the Introduction to the Premium List:

BEES AND BEE-KEEPING.

From the earliest ages, *Honey*, the produce of the Bee, has been in all civilized countries an esteemed luxury of the human race ; and Wax at great commercial value, as well as a useful adjunct for domestic use, sometimes to illuminate the halls of the noble and great, at others to brighten the humble furniture of the thrifty cottager.

The busy merchant, when wanting a symbol of industry for his house, could find no better sign than the "Bee-hive"—how common the axiom "a very hive of industry"—the poet and the moralist failed not to quote our little friend as an example to the young, and the beautiful rhyme of Dr. Watts, of "the little busy Bee," can never be forgotten as a memory of our early days, and in ages to come will be taught to our children's children

with the same loving wish of as good results as we hoped for us.

How then have we requited our little friend? For shame, be it said, by *robbery arson, and murder.* For centuries the almost universal practice to obtain the sweets of the hive has been by destroying its inhabitants by fire and brimstone, and appropriating the whole of their gathered riches. With as much reason might the farmer slaughter his sheep to obtain their fleeces. Spare the laborers and they will work again ; and after the toils of a busy summer, grudge not a portion of their gathered harvest to preserve the lives of those who have labored so hard.

The British Bee-keepers' Association was instituted in May last, for the purpose of advancing the cultivation of Bees, and particularly to bring to the notice of cottagers and others, more scientific, profitable, and humane methods of apiculture than has hitherto been generally practised. Our rural districts, from the fertile valleys to the mountain tops, wherever fruit, seeds, and flowers grow, offer pasturage to Bees. No rent to pay! No trespassers! Every farmer, every gardener, gladly welcoming the busy Bee! Darwin tells us that to Bees (of another species truly) we owe the very existence of red clover. Learned men remind us that the beauty of our fields and gardens, and the maturity of our fruits and seeds, are in a great measure attributable to Bees, who in their flights from plant to plant, unconsciously distribute the pollen by which the flowers are fertilized.

Thousands of tons of honey and wax are annually wasted in our native land, which might be profitably gathered by Bees, and the money expended to foreign countries for Bee produce, put into the pockets of our rural population. There is no reason why every man, and women too, who has enough of garden room to stand a hive upon should not keep Bees. Any man who can make a rabbit-hutch can make a Bee-hive for use, as good as the best, and those who can afford to buy may gratify their taste or suit their pocket by selection from the many very good patterns now on view.

A glance at our Catalogue and Honey Show will prove to the enquirer that the profits of Bee-keeping are not to be despised. A stock of Bees may ordinarily be obtained for about £1—a little more or less according to the district, and instances will be found at this Show where the marketable value of the honey obtained this year, from a single hive, equals as much as six or eight times the orignal value of the stock, which is yet maintained to work again another year! Such is the result of *good* management, which the Association would like to find general. Now a few words as to the danger of being stung. Bees are never aggressors without cause ; treat them kindly, or let them alone and have no fear, for you will never be stung. Children soon find this out, and play about the hives as merrily as usual, gaining a lesson in industry and additional pleasure by watching the return of the laden workers.

JOHN HUNTER, *Hon. Sec.*

Notes and Queries

Is there any demand for empty comb, and at what price ought we to sell it? I have about 500 empty combs, 12x16 inches in size, nice, clean and straight; and also a quantity of clean white comb of all sizes and shapes. Where can I sell, to whom, and at what price? W.

There is a good demand for such comb in frames, though the size you name is not a common one. We have paid $1 each for such combs, perhaps no one else would give as much. Would advise you to advertise it, and get all you can for it, if you cannot use it yourself. As to the clean white comb in pieces, you can sell it to any dealer who is putting up honey for sale in jars. If you have much, it may pay you to advertise that also.

C. W. inquires if there has been any improvement within the past five years in making artificial comb; and says, "the one who perfects any thing in the shape of comb in which bees will work, will be the greatest benefactor of all bee men."

We agree with him so far as to fully appreciate the importance of artificial combs to bee-keepers. We know that Mr. Wagner was still at work perfecting dyes for the making of his combs at the time of his death, we are not informed as to his progress further than that. Mr. Quinby's artificial comb was a success so far, that the bees used it raising brood and storing honey. Why he has ceased using it we are not informed, or in what respect it failed to answer his expectations. We are sure the time is not far distant when we shall have combs made by men, that will be accepted as good by the bees. In the meantime we may, by proper management, stimulate the bees to build comb in good frames ; and to do it when they would not be storing honey. Then if we cease to sell honey in the comb, we shall have a better supply than we have had in times past.

I wish to begin the bee business. I am offered ten colonies at $10 each. Is that too much? and how am I to tell if they are good colonies? C. G.
Missouri.

The price is not out of the way for *good* colonies of black bees, if they are in moveable comb hives. We would not advise you buy without examination, and if possible to defer until spring.

Early in spring they ought to weigh near 20 lbs. and have a cluster of bees that extend at least, between four combs. It is hard to give a novice directions so that he can tell exactly the value of the bees he buys, and we would advise you to have the counsel of some one that has experience, before purchasing, unless you know you can rely on the one of whom you buy, to give you only colonies he can warrant good.

Please tell us what colored honey Alsike, Lucerne, Catnip and other plants make.
JAMES MARKLE.

Alsike clover gives us a light colored honey of greater thickness than white clover, and of as good if not better flavor. We know little about the honey from Lucerne, and reports are so conflicting about its value as a honey plant, that we prefer to ask for "more light," before expressing our opinion. Golden-rod gives a very yellow honey; that from Aster is not so dark though of better flavor. Doubtless the color and flavor of honey from *all* plants, varies with locality and soil. All who know anything about Sorghum syrup, are aware that much depends on the soil where it is grown, and just so we think honey is changed by soil.

Please tell a beginner how to fasten movable frames securely, when moving some distance. H. LIVINGSTON.

In most cases it is only necessary, in moving bees, to drive a small nail into each and every frame and fasten them securely on the top. This is easily done, after smoking the bees so that they will not resent it. After doing this, put the cap on tight and fasten the entrance up, either with wire cloth, or a piece of wood, in such away as to give them air, while confining them. We have found no difficulty in moving bees prepared in this way, Jolting should be avoided as much as possible, and the less honey in the hives the safer they will go.

I am using Langstroth hives, but find great difficulty in getting bees to build in the upper chambers. What is the cause? Last spring I had 22 colonies, when the wet weather set in; when it closed, my apiary was reduced to 9 colonies. I took 400 lbs. of honey. It became crystalized early in the fall, notwithstanding I kept it in a dark place. I have let my bees remain out this winter, have them wrapped in straw; they are keeping well, so far. I am very much interested in the JOURNAL.
Tenn. MRS. M. G. MARRISS.

Without knowing more about your hives, we cannot tell why the bees do not build in the upper chamber. Different causes may produce it. The openings into the super from the main hive may be too small, (we would always remove the honey board in such cases). There may have been too small a number of bees to enable them to have sufficient heat in the chamber. Below, the hive may have been so full of honey that the queen has been cramped for room and the bees are in consequence reduced in number. There is something wrong in a fair honey season if bees in a healthy, strong colony do not work in every part of the hive. If there are bees enough, they will work, if honey is being secreted, wherever they can find space.

Honey will granulate in all places and under all circumstances, it seems, contrary to all rule. Instead of that being a disadvantage, it is rather in your favor, since it proves that it is unadulterated. After it has granulated it will keep any length of time and can be restored to a liquid form by warming it, with very little trouble.

There is an increasing demand here for honey in the granulated state; many people preferring it so. You speak of honey as "crystalizing"; sugar syrup might crystalize, but honey granulates. There is a great difference between the two words or rather the states which the words represent.

LOCAL BEE-KEEPERS' SOCIETIES.—Some correspondents have written to us, enquiring how to organize local societies of bee-keepers. We answer, do it as simply as possible. Very little machinery is needed. A President, Secretary, Treasurer, and Committee, are all the officers required. A few rules, prescribing the membership fee, times of meeting, order of business, and so forth will be sufficient. In view of the privileges accorded by the North American Bee-Keeper's Society, it is advisable to organize as auxiliary to the general body, and we hope that many such organizations will be found in various parts of the country during the present winter. C.

The Report of the "Michigan Bee-Men in Council" is so long that many other good articles are laid over for want of room. The Michigan Bee-Keepers had an interesting meeting, and the Report will be read with interest.

Michigan Bee Men in Council.

KALAMAZOO, Dec. 16th, 1874.

The seventh annual session of the Michigan Bee-Keepers' Association convened in Corporation Hall, at two o'clock, p. m., President Balch in the chair. Notwithstanding the universal complaint of hard times, the attendance was unusually large, evincing a growing interest in this fascinating pursuit.

After the transaction of some preliminary business, the convention listened to an Opening Address by President A. C. Balch, welcoming the members to the hospitalities of the large-hearted and whole-souled people of this loviest of villages—Kalamazoo.

The regular programme of the convention was then taken up. Secretary Burch read a paper from Charles Dadant, of Hamilton, Ill., on the best size of frames, in which the writer strongly favored a large frame as giving the greatest advantages to the apiarian. He also urged that American apiarians adopt a uniform-size standard frame, as being a long sought desideratum; in proof of which he cited the beneficial results that had followed such adoption in Italy. The paper elicited much discussion, the most important of which we give, as follows:

James Heddon—Large frames, the size of Quinby's, are, in my opinion, too large. I prefer a small, shallow frame, as it offers the most advantages, and gives the best results in amount of box honey. It has been almost universally recommended that a hive should not hold less than 2,000 cubic inches; yet a smaller size will give better proportionate results. It is better not to give the queen all the room that she will use, than go to the opposite extreme. Quality of bees, and not quantity is what we should aim to get.

Dr. A. L. Haskins—I use the American frame, 12 inches square, and think it about the right size. I like it better than Quinby's.

Prof. A. J. Cook—In this country of Yankee ingenuity and invention, it will be quite impossible to adopt a standard frame, as scarcely any two apiarians will agree on any one size, much less the whole fraternity. I have experienced much difficulty in handling the Quinby frame, in having the combs fall out, which is decidedly unpleasant. The bees do not fasten large combs as securely as smaller ones. They are inconvenient for queen-rearing, which is objectionable, as all bee-keepers wish to raise queens for their own use. I prefer the Gallup frame, as combs do not break out so easily, and are more convenient for rearing queens. They are also better for wintering, as the bees are in a compact cluster, just as they should be. Bees that cluster in an oblong shape, as they do in Langstroth's will get away from the outside of the cluster and die.

C. I. Balch—Would not a shallow frame obviate dampness better than a deeper one?

Prof. Cook—Such has not been my experience.

T. F. Bingham—Thought the subject an important one. Give a beginner a good hive, and good advice in the shape of a good text book, and if he has good judgment he is almost sure to succeed. If I used the Langstroth frame I should think a standard frame desirable. Small, shallow combs give more brood early in the season. Large combs obstruct the easy passage of the queen to various parts of the hive—shallow combs obviate this difficulty. Heat ascends sooner than it radiates; hence, in tall hives, it is lost. In wintering bees we should keep them near the bottom boards, and it will not get clogged up with dead bees. Early in the season the queen will lay in one or two large frames; in a series of smaller ones much more. Again, small, shallow frames are much easier to handle. There are but two methods of obtaining box honey successfully. Either use a tall, narrow frame, and side boxes, or a long, shallow one, and top boxes. Small frames are more convenient to manipulate in extracting. I prefer a cloth quilt, hemmed in beeswax, in place of a wooden honey board.

J. H. Everard—Large frames are objectionable; too heavy to handle. In visiting Mr. Bingham's apiary, had witnessed the best results with a long shallow frame, only six inches in depth.

C. I. Balch—Have always used a frame nine inches deep; would use one not to exceed seven inches, were I to commence again. Mr. Bingham once advocated a deeper frame.

T. F. Bingham—And would to-day, if obliged to winter out of doors. By the aid of a good bee-house they can be safely wintered in shallow combs.

Dr. Southard—Use only the regular Langstroth frame. Were I to change, would make them smaller, and more shallow.

Mr. Bryant—Have used ten Bingham frames to the hive, with good results. Have used sectional hives but do not like them. Bingham's gave the most box honey.

Prof. Cook—What is "box honey?"

Pres. Balch—Honey stored by the bees in small glass boxes.

Geo. Stray—I get more brood early from a shallow oblong frame than from a deeper, square frame, and consequently more honey. In wintering, have no mouldy combs. Leave hives on summer stands, pack well with straw keeping it dry, and bees will winter well.

Prof. Cook—I would like to hear from those who use deeper combs. I hope we shall not fall into the error that honey can be obtained only by the use of shallow frames.

Mr. Bryant—My twenty-five stocks in shallow, six-inch frames gave me over 3,600 pounds of box-honey.

H. E. Bidwell—I have used all sizes and shapes of frames; now I prefer a frame one inch deeper and one inch shorter than the Langstroth. It will give more honey, but is more trouble to winter successfully than deeper combs.

James Heddon—Years ago I took the tops off from box-hives, putting on a honey-board. In using all sizes and shapes I found that a hive 22 inches deep often gave just as much box honey as one only ten. I prefer the latter depth in movable comb hives, as we get a small hive in better shape, offering greater advantages in manipulation.

Mr. Helleney—Am using Langstroth hives; think them preferable; can get more honey from an extra set of combs on top, than from boxes.

James Heddon then favored the convention with an address on the subject of "The Art of Getting Honey into Money," the prominent points of which we give below:

Apiarians who raise extracted honey, are

now obliged to compete with cheap syrup and glucose in all the large cities. Exclusive honey dealers adulterate our honey with this stuff, thereby making one pound of honey sell seven or eight pounds of glucose. Had agitated this subject years ago, and now the dishonest practices of these dealers demand that we met the question squarely and firmly, or else we shall soon have no market for our honey—it will be utterly overstocked. If we put only a good article on the market, and continually keep it supplied, we can create a demand for our honey, by educating the people's taste for a prime article. Make honey a staple article. Honey dealers will buy honey, and *promise* to pay, and sometimes will do so, after selling it at double the price, besides selling eight or ten times as much glucose, worth seven or eight cents per pound. We ought to adopt the grange principle of combination, control our own products, and sell direct to the consumer. We must discriminate between the products of an apiary and a honey-house. Teach the people who eat honey, that the former produces honey—a pure article; the latter a conglomeration of honey, glucose and poor syrup.

C. I. Balch—Many people like to be humbugged, and will buy a spurious article in preference.

James Heddon—Honey dealers have created a demand for jar honey with a little comb in it, as much as to say, "Liquid honey is not good, so we'll put in just a little that is." This ought to be abandoned at once, as extracted honey is even better, because wax is not a wholesome article. I know from experience that, despite prejudice, the people who eat it, learn to prefer it.

C. I. Balch—Can honey that is candied in the comb be liquified?

James Heddon—Honey candies from cold. Put it in a warm place and it will liquify, though it takes time.

Pres. Balch—My bees will carry candied honey out of the hive in spring.

James Heddon—If you put a comb of such uncapped in the middle of the brood nest they will utilize it.

Prof. Cook—Honey is only a kind of sugar. The various kinds are quite readily told by the temperature it will grain. Nearly all syrups are adulterated. How then can we stop adulteration?

James Heddon—If you find a dealer keeping an adulterated article, publish him. Printer's ink works wonders, sometimes.

J. H. Everard—Create a home demand by keeping a good, pure article.

Mr. Bryan—Detailed his experience in mixing syrup and honey; thought it didn't pay.

James Hedden—Bee-keepers can raise the pure article cheeper than they can manufacture it.

T. F. Bingham—We might undoubtedly create a demand for honey, but it is easier to cater to a demand that already exists. Every man likes his own wife's coffee best. People who have long eaten comb honey prefer it.

After some further discussion, the Convention adjourned until evening.

At the evening session, among the papers read was the following by Prof. A. J. Cook, of the State Agricultural College:

FEEDING AND THE EXTRACTOR IN RELATION TO PROFITS IN APICULTURE.

Success in bee-keeping as in every other pursuit that looks to nature or natural phenomena for those prospective profits which make the heart glad, demand that we understand and take full cognizance of the science underlying those phenomena. To be sure ignorance *may* succeed, while full knowledge removes success from the realms of doubt.

Now, as a preface to this essay, let us recall some of those facts, which science has developed, which have a bearing on the subject matter in hand.

Science determines that, in the economy of the hive, the older worker bees gather the honey, the younger do the work of the hives, as comb-building, feeding young bees, etc., while the instincts and structural natnre of the queen impel her to do the work of egg-laying alone. Moreover, science taught very early in the world's history, that the instinct of all these classes of the hive incited them to an industry which knows no abatement, save as the stern hand of necessity is laid upon them. Thus the gatherers work with unparelleled asiduity, so long as there is honey to gather and room in which to store it. The in-door laborers build comb so long as room and the proper internal arrangements of the hive permit. While in the queen, a stronger instinct still causes her to labor untiringly in her work of egg-laying, yet leading her to pause, not simply from necessity but often from probabilities as well in that the queen ceases from egg-laying when the gatherers cease from storing. Can it be that parental solicitude for the welfare of her offspring, makes her, even in the face of desire, to withhold from sending children to brave scarcity, want, mayhap starvation. What lessons has nature for those wise to read.

Such breadth of instinct, seeming to reason upon surrounding conditions, and what is more wondrous still, seeming to comport with structural pecularities, is not alone peculiar to the queen bee. The male pigeon for example feeds the young, and with the hatching of the young fledglings, comes a peculiar development of the crop, which assists in the preparation of suitable nourishment. Here too, then, structural conformation, has relation to a peculiar instinct, which takes note of outside circumstances. Another example is found in the common high-holder, Colaptes Auratus, which usually lays six eggs. Yet if the eggs are taken from the nest, the bird will continue to lay often to the number of thirty, which number was actually taken from a nest at our college, by Prof. W. K. Kedzie, now of the Kansas Agricultural College. Here again then we notice that instinct varies with circumstances, and is attended by a structural change of the ovaries.

Hence we see, science teaches that to have honey stored, we must have, not only bees, but honey secreted by the flowers, and room in the hive to store the same. And again, to have bees to store, we must keep the queen laying eggs, which demands, not only room for the same in empty cells, but just as imperatively that storing is continued.

Now, let us see if these requisites are always at hand, without care and labor by the apiarist.

Suppose, as true of us at Lansing during the past season, we have an excessive yield of honey from the fruit blossoms, during May. The workers ever on the alert for such opportunities, will, in the two weeks of rich harvest, fill every cell in the hive with the precious nectar. What then? the queen, like Othello, finds her occupation gone, for if in the interim between fruit and white clover blossoms, the comb-builders do ply their calling, which in the general indolence of the hive, is not likely; still in the midst of idleness the queen will not even improve such opportunity. So with clover bloom, we have a depopulated colony all unprepared to make the most of this, the golden era of honey gathering. Yet, even with the fewer bees, insures a repetion of the fruit season experience. With a good harvest of clover, such as the past season gave us, comes storing to repletion, and ruinous prosperity again confronts the apiarist. From white clover to basswood, comes a repetition of former experiences, only augmented, of course, so that the longed-for period of basswood bloom, finds the apiary with depleted colonies, all unprepared to reap the rich reward which a bounteous honey harvest presents. More than this, it never rains, but it pours, as the moth comes to make havoc with colonies too feeble to offer successful resistance. Now, if all these seasons of fruitfulness to the bee-keeper have been productive, as during the past summer, we go on from bad to worse, as we near the period of buckwheat, and golden-rod. And thus Autumn finds us with feeble colonies, small returns, and long faces, when nature has been most propitious.

After September we have no gathering, brood-rearing ceases, we approach winter with what few bees we have, old, torn and gray with labor, and ere spring, even these succumb, and what wonder if we say, "bee-keeping is played out." For in just such ways does it far too often become a source of vexation and discouragement.

Now is there no escape from these perils? With the science full in mind we see that if we can only keep the bees supplied with empty comb, enabling both worker bees and queen to meet their fullest capabilities, and more, can keep the worker bees constantly storing, so that the queen will be stimulated to her best efforts, even in the interims of honey secretion, we shall meet both the above difficulties, and shall welcome such seasons of infinite honey secretion as the past has been, with malloyed pleasure. Now, thanks to Herr Hruschka, of Germany, we are enabled by the use of the honey-extractor, which his inventive genius gave us, to accomplish the former, and by feeding limited supplies during the periods of no gathering, using this same extracted honey, should it not find a remunerative market, we meet the second difficulty. Here, then, in use of the extractor, and by judicious feeding, the apiarist has power to leap one of the greatest obstacles in the way of success. And just here let me say that I fully believe that in this use we receive the greatest benefits of this indispensible machine. By its use, during the past summer, we have been made to rejoice in one of the best honey seasons I have ever known. Those who have not used it, have fallen far behind in the amount of profit received. Early during the past season there was an astonishing yield of honey from the fruit blossoms, so that we experienced a peculiarity, new to me, of having our combs filled with this early honey.

Do you ask me then, when I would extract, and when feed?

I answer that I would extract whenever it was necessary to give the queen empty cells, never allowing all the cells to be filled with honey and brood. Whether I would use it at other times, would depend on the market for extracted honey. If I could find ready sale for such honey at 15 cents per pound, I should extract a good deal at other times, especially in the fall, as it is valuable to have empty combs in the spring as by their use we can most easily obtain non-swarming hives.

I would feed sparingly, obliging the bees to carry the honey into the hive from March till October, whenever the bees were gathering no honey. Do you urge the trouble and labor involved? Let me assure you it will prove the most remunerative, expended in your apiary.

Very likely some of you will desire to know where to obtain the best extractor, and how to feed in the most convenient manner.

So far as I know, there is no better extractor made than one sold by A. I. Root & Co., Medina, Ohio, for $10, or made to fit his standard frame which is $11\frac{1}{4}$x$13\frac{3}{4}$—$9. Just the gearing, I think, can be procured for $2, in which case, each of us can finish to suit himself.

As to feeding, if we have a close chamber above the brood chamber, all we need to feed is a common tin or wooden box, with a bottom of coarse cotton cloth. Setting the box over a hole the same size in the quilt or honey board, the bees will come up and sip the sweets as they ooze through.

Cloth bags nailed to the top bar of a frame which has a lobe through it and placed in the hive in lieu of one of the frames of the comb, as recommened by "Novice," will be cheap, convenient, and easily set aside when not needed.

EVENING SESSION.

The first topic, "Feeding,—How, When, and Why," was introduced by a paper from Prof. A. J. Cook, of the Agricultural College, favoring stimulative feeding, in times of scarcity, to promote breeding; also of the value of the extractor in times of great honey secretion. The subject was discussed as follows:

T. F. Bingham—Did the bees store from apple blossoms to exclude the queen?

Prof. Cook—They did.

T. F. Bingham—Did you have forage from earlier sources?

Prof. Cook—Yes.

T. F. Bingham—At that time of the year (last of May) the hive should be full of brood.

C. I. Balch—In times of scarcity of forage, uncapping the honey in the hive will promote breeding.

T. F. Bingham—You might just as well feed chips to induce brood rearing as honey. If bees are gathering pollen, as they usually are in warm weather, and have honey in the hive, the brood will be abundant. Feeding for this purpose is useless. Bees have little discretion—man should have it for them.

Prof. Cook—My bees would not breed when gathering pollen and no honey, and my queens were "yellow," too.

J. Tomlinson—I have had combs stored full of pollen, but got little brood.

Prof. Cook—Would Mr. Bingham ever feed stimulatingly?

T. F. Bingham—Never. Its requires lots of discretion, which our family don't possess. It may do for amusement, the same as boys play marbles.

J. H. Everard—Don't localities differ?

T. F. Bingham—I think bees will gather enough in any locality—usually too much for the benefit of the bees. Bees do not collect honey or pollen because they need it, but because it's their instinct—bees have no reason.

President Balch—Hives that have an abundance of pollen, do not work as well on flour in the spring as those that do not.

Mr. Walker—I tried every method last spring to get brood early, but failed until natural pollen came in, though they had eggs all the time.

Prof. Cook—I had some stocks with no pollen; stimulated, and got lots of brood. Commence the 1st of April, feed regularly, and you'll be surprised at the amount of brood. Though others claim that brood can be raised without pollen, I don't believe it.

C. I. Balch—Did you ever mix honey and pollen together and feed it?

Prof. Cook—I have never tried it.

H. E. Bidwell—Bees cannot brood without pollen; uncapping honey in the hive is a good method to promote breeding.

T. F. Bingham—If one has lots of leisure, it would be good exercise to take a carving knife and go around through the apiary and "carve" 200 stocks.

James Heddon—If your combs contain an abundance of pollen, feeding will pay well. Have tried every plan of feeding, and prefer to fill a Mason fruit jar, puncture the cover full of fine holes and invert it over the hole in the honey-board. It will not leak, and you can see at a glance just how fast the bees are taking the feed. Fed sugar syrup in this manner last fall, for winter stores; it is equally good for stimulative feeding. Bees in small hives will have lots of brood, when those in large hives will have less, as they fill up the brood combs with honey. Do not like Root's extractor—it's not strong enough.

Prof. Cook—What one would you use?

James Heddon—I make my own, after having tried several others.

T. F. Bingham—Extractors, to be durable, must be strong. In extracting, we are often compelled to do it in a hurry, as honey sometimes comes with a rush. Would use up a Novice machine in a half day's run. Use a revolving can machine—a Peabody machine, Bingham-ized. Can extract more in a day from black than from Italian bees.

C. I. Balch—Black bees run off the combs, making it easier to do a big day's work.

James Heddon—I can extract honey so solid, that a revolving can machine would not touch it. As Mr. Burch helped me extract some honey a short time since, I wish to ask him if he thinks any other machine would have done the work.

H. A. Burch—I have seen no other that does as good work.

A paper was then read by the secretary from James Bolin, West Lodi, Ohio, on the best manner of "Wintering Bees." H. E. Bidwell, of South Haven, Mich., read a paper on "Wintering in Cold-Frames."

J. Tomlinson—How many swarms do you put in each cold-frame?

H. E. Bidwell—Sixteen, two deep. Size of frame 6x12 feet, and three feet deep.

J. Tomlinson—Would not a conservatory do?

H. E. Bidwell—It might, but is not necessary. Besides it's too expensive.

J. Tomlinson—How far is the glass above the hives?

H. E. Bidwell—About six inches.

C. I. Balch—Do the bees cluster on the glass?

H. E. Bidwell—Not if the temperature is right. It should not be too cold, nor too warm—about 70 degrees is the best.

H. A. Burch—What is the slope of the glass.

H. E. Bidwell—Eight inches in six feet.

Prof. Cook—Would you confine the bees to the frames in spring and let them work on flour?

H. E. Bidwell—I would. They worked freely on it last spring. Would let them fly occasionally—once in four weeks is often enough—keeping the frames well covered in the intervals.

Dr. Southard—Am trying the experiment of packing hives in a box with straw, so as to guard against sudden changes of temperature. Each box holds 16 hives. Think this better than a cellar, as mine were uneasy when thus housed. Had them covered with quilts which I think injurious. The cellar was well ventilated—mercury 45 degrees.

A Member—Do not bees when flying in winter go back to the summer location when removed in the fall?

Dr. Southard—Mine do not.

C. I. Balch—As much stress is laid on keeping bees quiet in wintering, I would like to hear from Mr. Milner on this subject.

Mr. Milner—I have wintered stocks that had no honey in the fall, by feeding during the winter. The bees were kept in a house cellar, under the living room. When my bees are quiet in the cellar, I stir them up. There are many fine theories that are erroneous.

James Heddon—I think there is an emidemic around the country. If the bees are right you may pound them—they will stand some abuse; but if diseased you must exercise judgment and work hard to save them. I think Mr. Bidwell's plan a good one, yet would prefer a house if that will insure success. Put the bees in carefully; do not let them know it. Carry bees out and in often in spring, if necessary.

C. I. Balch—There may be a bee disease.

Mr. Milner—I have handled my bees only moderately careful for the past four years, yet have succeeded well. They are certainly well stirred up in putting them in the cellar.

J. H. Everard—I have drawn bees over a rough road in cold weather, and they wintered well.

James Heddon—When I took my bees out last spring they were so dormant that I had to stir them up to induce them to fly at once. Wintered without loss, though I had lost nearly all in the previous winters.

A. C. Balch—Bees do not need upward ventilation at any season of the year, much less in winter.

Mr. Walker—My bees that had no upward ventilation died, others did not. They were

wintered in a special repository with a temperature of summer heat—too high. Bees clustered outside of the hives.

A. C. Balch—If the conditions are just right you can seal them up air-tight and they will live. I would prefer a tight barrel to a ventilated hive.

T. F. Bingham—I wish I had had 100 swarms "bottled up" last winter. To prevent mold have the comb "chock full" of honey.

A. C. Balch—Related Prof. Cook's experiment of wintering bees in a snow bank. One hive was sealed hermetically; it came out in good condition.

James Heddon—Can bees live without a change of air in a winter repository?

A. C. Balch—I think they can. In order to insure success, avoid all currents of air, especially in the hive. Have wintered for years in a house cellar, with no ventilation and no loss.

C. I. Balch—In explanation, I would state that the hives referred to are double walled, and will give some ventilation, even when closed so bees cannot get out.

J. H. Everard—Will Mr. Balch give the temperature of his cellar?

A. C. Balch—From 40 to 45 degrees—atmosphere perfectly dry.

George Stray—Will Mr. Heddon state his method of wintering?

James Heddon—My winter repository is 12x16 ft., with a foot wall filled with sawdust. Have shelves, so that each hive is separate. Put them in early, before cold weather. If the weather admits of a good fly, I carry them out, and re-house them before it gets cold again. By this means, losses in spring may be avoided.

Mr. Milner—The temperature of my cellar was 32 degrees—the success was excellent.

T. F. Bingham—Mr. Quinby and myself (showing the similarity of ideas of great men) tried artificial heat in the winter repository. Have had a hot time the past summer—just a little last winter. Without joking, I want a low temperature—32 deg. —to prevent breeding; and then a judicious use of Mrs. Winslow's soothing syrup will bring them out all right. If the bees are kept quiet, the hives and combs will remain dry.

James Heddon—My bees are more quiet with the mercury at 52 deg. than at 32.

Mr. Walker—The temperature in my cellar was so warm that one swarm built comb in an upper section which was occupied by the queen. Many of the bees left their hives and clustered on the ceiling.

A. C. Balch—Your bees were trying to swarm.

The "Question Drawer," a novel and interesting feature of the present session, was conducted by T. F. Bingham. The most important queries and answers we give as follows:

Are Italian bees superior to blacks?

They breed well, but think them no better. They are not good box honey workers.

Are artificial queens as good as natural ones?

They are.

Are queens reared from the larvæ as good as from the eggs?

Think there is no difference.

Are small queens as good as large ones?

Just as good.

What is the expense of raising queens when bees are rearing an abundance of brood?

Merely nominal.

Can you get as much honey with increase as without?

Yes, and you have a swarm ahead.

Which will gather the most honey relatively, large or small hives?

Small hives, every time, if not *too* small.

Which are longest lived, Italian or black queens?

The black queen. Italians have to be constantly imported to keep up the stock. If Dadant could get a queen good for four years, he could stock the whole country with queens.

We would state that although the above answers are at direct variance with the generally received opinions of well informed apiarians, they are not so when taken from Mr. Bingham's standpoint.

The Convention then adjourned to meet at nine o'clock, a. m., to-morrow.

SECOND DAY—MORNING SESSION.

Kalamazoo, Dec. 17, 1874.

The convention was called to order at 9½ o'clock this morning, President Balch in the chair. The secretary read a paper from W. J. Davis, of Youngsville, Pa., upon "Queen Rearing." The best stock to breed from, and the conditions necessary to insure the most uniform and permanent success was considered at length. He urged bee-keepers to use more care and exercise more judgment in rearing queens. The idea that the best queens could not be raised out of the swarming season, was strongly maintained.

J. Tomlinson—Can we not get good queens late in the season?

C. I. Balch—We can, according to my experience.

Prof. Cook—Good queens can be raised late in the season, but it requires more skill and experience.

James Heddon—I have procured a good many queens from W. J. Davis; have found no others equal to them; but do not agree with him in regard to the Darwinian theory of reproduction. Our best scientific men agree with Darwin.

Prof. Cook—Our best scientific men believe in evolution, not in Darwin. Evolution is—life comes from life—from the lowest to the highest. Darwin teaches natural selection,—that the fittest and best survive and the poorer and weaker perish.

Mr. Davis claims that the best time to rear queens is the swarming season; is natural because in accordance with nature. When bees supersede their queens, we have a natural process, yet it is often done out of season, usually in the fall.

A. C. Balch—Bees, in superseding a queen, commence from the egg, but when deprived of their queen use larvæ to supply the loss sooner, which accounts for the difference in quality.

Mr. Bryan—Prolificness is dependent on the age of the larvæ when the cell is started. One day old will make good queens, seven days very poor. Have never seen two queens in a hive at once.

Pres. Balch—There is yet room to learn.

C. I. Balch—Will Mr. Bingham favor us with his method of rearing queens.

T. F. Bingham—Man, of himself, can't raise queens, even with the help of science

—though that will aid us. New comb will make our success more certain. Cut new comb, containing eggs or larvæ into strips three cells wide by ten long. Cut the cells off on one side near the septum of the comb, and insert in an opening made in a brood comb, with that side down in a vertical position; would use five or six such pieces to the hive. Cells built in this way can be cut out without destroying them. Old combs may be used by cutting the cells closer to the septum of the comb.

H. A. Knapp—What place in the brood comb would you insert these strips?

T. F. Bingham—I prefer the centre, though it's immaterial.

Prof. Cook—When bees supersede poor, short-lived queens our stock will grow worse; but one that has been prolific three or four years and then fails will surely produce better stock.

T. F. Bingham—Prof. Cook has struck the key note to success in this matter. The queen that lays well for four years, has a fine organism and good constitution, and will give us the finest queen progeny.

James Heddon—A queen that will live four years, and is prolific, will give us the best queen stock, if reared when she is in her prime—before she commences to decline. The offspring of young parents are weaklings, as well as those very old.

H. A. Knapp—Yes, and oftener.

C. I. Balch—I once reared queens from one the bees were trying to supersede, for 50 stocks, and they were as good as any I ever saw.

J. Tomlinson—Was she a good layer at the time you reared the queens?

C. I. Balch—She had been very prolific—was moderately so at the time.

Mr. Bryan—There must be a natural cause for poor queens. What is it?

H. E. Bidwell—The eggs consist of many small ovals. When the eggs hatch, if to be used for queens, they should be fed as such from the start as they are more fully developed. Eggs from old queens are not as good as from those in the prime of life.

Prof. Cook—Why do cows that have proven to be extra good ones, command a higher price when quite old? Is it not because they will then perpetuate their desirable qualities, with more certainty, in their offspring?

T. F. Bingham—No, but simply because there is no uncertainty about their good qualities.

C. I. Balch—Would Mr. Bidwell breed from a very young queen in preference to an old one?

H. E. Bidwell—I would most assuredly.

Papers on the best method of obtaining box honey were read by the Secretary, from Seth Hoagland, of Mercer, Pa., G. M. Doolittle, of Borodino, N. Y., and J. P. Moore, of Binghampton, N. Y. Many valuable ideas were advanced, eliciting considerable discussion.

T. F. Bingham—Prefer boxes on top instead at the side of the hive, as bees will store pollen in the latter, spoiling the quality of the honey. Have no brood in top boxes if properly managed. If honey comes in fast when building comb, there is no trouble; if not, they must be watched, as the queen might go above.

Mr. Bryan—If you want to obtain the best results, keep the bees crowded—they will then store honey in boxes.

Henry King—I have used side boxes on the Eureka with good results. Was not troubled with pollen.

James Heddon—The fabulous tales we hear of side boxes are a myth. By elevating the back end of a hive we have all the *supposed* advantages of side boxes. To get honey stored above, keep the brood nest well filled with brood and stores. A low, flat hive gives more room on top—just what we want. Honey stored in frames don't sell equal to small glass boxes.

H. E. Bidwell—Put frame honey up in glass and it will sell at the highest market figures.

T. F. Bingham—Which plan gives the greatest quantity, boxes or frames?

H. E. Bidwell—I can get from thirty to fifty per cent. more in frames. Think the difference owing to increased facilities for rapid storing which they afford the bees. It sells just as well.

Mr. Bennett—I can get more honey in frames than in boxes, but must sell it to exclusive honey dealers, and they are regular cheats.

President Balch said the time for the election of officers had arrived. The convention proceeded to elect officers for the ensuing year with the following result:

President—Henry E. Bidwell, South Haven.

Vice-President—Arad C. Balch, Kalamazoo.

Secretary—Herbert A. Burch, South Haven.

Treasurer—James Heddon, Dowagiac.

As the time allotted the morning session had not expired, an opportunity was presented for volunteer papers and addresses. The Secretary read interesting letters from R. M. Argo, Lowell, Ky., and James M. Marvin, St. Charles, Ill. T. F. Bingham read a paper on "Importing Bees" condemning in emphatic terms the promiscuous importation of Italian bees, and pointing out the danger of such a course. Julius Tomlinson read a paper on "Standard Frames," stating the impracticability of adopting a uniform size, and expressing the opinion that it never could be accomplished.

The convention then resolved itself into an "experience meeting" (to use a Methodist phrase) and many valuable ideas were brought out, the pith of which we give:

T. F. Bingham—Foul brood may be detected in various ways. Hives infected with it have a sickening nauseous smell.

The capping of the brood is concave instead of convex as in healthy stocks, and often has a slight opening as if punctured by a pin. It usually commences gradually, finally destroying the colony, and is very contagious. Procuring queens from infected apiaries will communicate the disease; hence the great danger of the importing business.

J. Tomlinson—Will the Secretary give us his experience with the "New Idea" hive?

H. A. Burch—It is very valuable—makes tip-top kindling wood. For a bee-hive it is worthless.

T. F. Bingham—Artificial swarming is the difference between the instinct of the bee and the will of man. Our success depends much upon our knowledge of the instinct of the bee and the honey resources of the locality. Perform the operation when clover begins to yield honey, so as to have the hive full of comb by basswood time, and you are

then ready to secure that harvest in glass boxes. Put on but few boxes at a time—no more than they can occupy.

James Heddon—The "New Idea" hive will give lots of bees, and some comb honey of poor quality. Will do very well for extracted honey, only it is twice as much work to get it.

C. I. Balch—How small will it do to make hives?

James Heddon—To give us a working force that will keep up animal magnetism,—the essence of life.

H. A. Burch—All who wish to manage bees with pleasure and the smallest amount of labor, should use Quinby's Bee Smoker. It is one of the most valuable implements about an apiary. You can get all the smoke ever needed, direct it just where desired and it is always ready for service.

J. H. Everard—Let bees out in the spring for a flight and then replace them. Sun entices them out and cold winds destroys them.

James Heddon—In accounting for the loss of bees let us be sure that they have not been wintered, often successfully, in previous years, under precisely similar conditions. By this rule, an epidemic is the only explanation, possible.

Mr. Bryan—We can domesticate bees, or rather educate them, so as to be perfectly docile; careful handling is indespensable.

James Heddon—Bees are naturally quiet and peaceable. They are made cross by education—improper handling.

T. F. Bingham—The best educator is a plug hat—they need no introduction to that, but will introduce themselves.

James Heddon—Extracted honey kept for several months is just as good as ever when ungrained.

Mr. Walker—Honey that is heated to the boiling point when first extracted will not grain.

The committee on resolutions—H. E. Bidwell and Dr. A. S. Haskins—reported the following, which were adopted without a dissenting voice:

Resolved That the Michigan Bee Keepers' Association tender to the kind citizens of Kalamazoo, our heartfelt thanks for the generous hospitality they have given us during this session of our association.

Resolved, That we return our hearty thanks to those at a distance who have furnished us valuable papers of great interest to our meeting.

Resolved, That this association return our sincere thanks to the reporters and press for their reports.

The convention was also unanimous in its condemnation of those engaged in adulterating honey, and all other dishonest practices.

The sessions were harmonious throughout and largely attended. It was, in the best sense of the term, a success, evincing a growing interest in this most fascinating pursuit, and marking a new era in the history of apiculture in this country.

Upon adjourning the convention decided to hold a spring session in Kalamazoo, on the first Wednesday of May, 1874.

HERBERT A. BURCH, Secretary.

There is a decided difference among bees as to industry in comb-building and honey-gathering, even where the location, weather and management are the same.

For the American Bee Journal.

Can Bees Winter Without Pollen.

MR. EDITOR.—Several of my correspondents are complaining that they fear they will lose their bees during the present winter, from the fact they have no pollen. I will state a few facts and try to relieve their fears.

In Oct. 1868, Mr. Soloman Brown of Tama Co., Iowa, visited me and while examining my bees, 26 stands at that time; he noticed that they were not only nearly out of honey but were entirely destitute of pollen. This had been the poorest season I ever knew; the bees had not made one fourth enough to winter on. I was about to feed them for winter when Mr. Brown asked me if I thought they could winter without pollen. This question scared me so that I determined to double them to 13 stands, which I did and fed on A sugar syrup.

In the mean time I had written to an old bee-man of may years experience, D. Burbank, on the subject. His answer was that when I feed on sugar syrup I need have no fears for pollen. Now for the result. The thirteen stands *every one* of them came through the winter all right, and increased next season to fifty-two, and give me 560 lbs. of surplus and the season was only a tolerable one.

I think bees can winter very easily without pollen, especially if fed on sugar syrup, but I would by all means advise feeding on rye-meal as early in the spring as the weather will permit them to take it in.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

Adulterated Honey.

I read in the report of the proceedings of the North American Society, that some honey dealers refuse to buy extracted honey because they can manufacture a "so called" better article, at less cost, in mixing a gallon of honey to seven gallons of sugar syrup.

I see also in the report of a committee appointed to study that matter, that the committee condemns such practice and menaces the adulterators of publishing their names. I doubt the efficiency of such a menance. The majority of the adulterators will assert that they do not sell manufactured honey. How can you prove their culpability, if you do not know the means of detecting the adulteration?

Such a means exists; it has been known and practised in France for centuries. It is infalllible and in the reach of every one. Honey granulates, or as you term it in this country, it candies. Sugar syrup does not granulate, does not candy, if too thick it crystalizes.

But I see in the same report that bee-keepers want a means of preventing honey from candying. It is the same as to want to encourage the fraud; for if bee-keepers were deprived of this means of detecting false honey, the adulterators would become more daring and more numerous. What is needed therefore is not to find a means of preventing honey from candying, but to educate all the American consumers, which are accustomed to buy spurious honey and

which refuse the true article, because they don't know it.

It is consequently of the greatest importance that all the Bee Journals inform their readers that the best test for honey is the candying; that honey candies because it is formed of grape sugar, which granulates and does not crystalize; that on the other hand, sugar syrup is made from cane sugar, which does not candy but crystalizes. That if they find on the market, from December to June, a so called honey in liquid condition, they can, with absolute certainty, declare it a sophisticated honey, or at least a honey which, by boiling, or by pure mixture, has lost its character as true and pure article.

If you were in Paris offering for sale your best honey, you could not find a price, not even five cents per lb, if your honey was liquid; while a good, white granulated honey would sell readily at 15 cents. It is because the French people are accustomed to eat candied honey, and know that it is granulated.

Let every one of us write, in all the papers at large, these simple facts; and without waiting for the millenium, we will see all the amateurs of good honey ask for candied honey, for it is really better than liquid, better even than comb honey.

Hamilton, Ill. CH. DADANT.

For the American Bee Journal.

Bee Enemies.

My article in the September No., headed "Spring dwindling," does not seem to have drawn the attention I desired, but I deem the subject to be of such overwhelming importance that I dare to dwell on it once more, hoping that this time one of the many experienced bee-keepers, writers or observers may take up the subject and help me to awaken the interest of all bee-keepers to it.

The enemy in question is a fly, called the bee killer. There are three kinds, all looking very similar to each other viz: Asilus Missouriensis, about 1¼ in. long. Asilus Cericeus, about 1 in. long, and Erax Bastardi, about ¾ in. long. All these three species abound here (central Ill.) from June to the end of September, and there is no doubt in my mind that they are the main cause of the sluggishness of the hives, often shown from early June to the middle of August. My hives were quite lively in April and May, increased in honey and brood, so that I already dreamt of a large honey yield and a large increase in June and July. But alas, how were my hopes disappointed. In early June my hives became lazy, almost stopped flying, showed no increase in honey nor in numbers, and actual weighing proved that they lost honey. Of course I dropped at once all intentions to a further increase of stocks, and tried to study the cause. True, it was a dry season, but there were in June flowers enough for the bees to bring home some honey, but they hung before the fly-hole without attempting to fly. I thought of toads and watched them; of hornets, of all birds, said to be enemies, but none could have such a discouraging and decreasing effect on the bees, as I perceived on all of my stocks. I investigated the stocks inside, found them clean, combs well built, but little honey and brood, and weak in numbers. None tried to build any queen cells. I almost gave up the search, when one morning while being busy in the apiary, I heard behind me a peculiar loud and short bee "hum." Turning around I saw a large long fly, hanging on a grass stem, have in its claws a bee and after turning the helpless victim so that the under side of the bee's thorax touched its proboscis, the latter as quick as lightning sunk into the thorax of the bee, at the same time the fly with its victim dropped to a lower place, between the grass, and after a few minutes dropped the sucked out, and of course dead bee, to look for a new victim. While I was observing the operations it struck me there might be more of these flies, and began to search, when I to my terror found that thousands were around in the field, all watching for the honey bee. The mystery of my bees dwindling down was at once explained. The bees I saw idle before the fly-hole were young ones. The old ones flying out, but not half of them returning from their honey and pollen excursions, of course the hive decreased in honey. Honey and pollen decreasing, the breeding was nearly stopped and a general discouragement lamed the hive. In July and August I killed a large number of the above named species but not enough to help me much. From the middle of August they seemed to disappear somewhat, and immediately the bees became lively, brought in more honey, began to breed again and enabled me to sling out from 40 hives, from Sep. 1st to 15th, 840 lbs. of fine honey.

The coming year I intend to apply all the time I can spare to hunting for this worst of the bee enemies. They are easily caught by a butterfly net. Just before sunset they settle mostly on top of a conspicuous weed, where they are easily seen and caught. I am very much astonished that none of our many writers on bees ever mentioned this enemy. The Missouri State Entomologist, C. N. Riley in his second annual report, gives a full description of all three species, I refer the reader to his article in that report page 121—124. What I would propose is, that all and every bee-keeper in the U. S. should from June to September be busy killing this fly. It is plain that this pest to the bees must increase, as the number of bees increases, but that a concerted action may thin down its numbers.

They are easily recognized by their long, slender comical abdomen, their transparent two wings, their long legs, thick thorax and their deep, drone-like short, loud hum while they fly. Their color is brownish and yellowish. Length of body from ¾ to 1¼ inch long. Wherever bees gather honey you can find this fly. I caught many a hundred on my buckwheat in the morning. On wild land in the afternoon. If it had not been for this blood-thursty savage bee enemy, I verily believe that I would have gained 2000 lbs. more honey and at least 25 more new colonies than I actually did. I think it worth while for every bee-keeper to give this subject his full attention for 1875.

Sigel, Ill. CH. SONNE.

We earnestly invite investigation on this point, being convinced that we cannot be too much on our guard against any enemy of the bee. We cut from Colman's Rural

World reports from Prof. Riley, describing what seems to be the same insect. Let all bee-keepers study these descriptions. T.

BEE ENEMY.

EDITORS RURAL WORLD: Please find enclosed an insect of the canibal species, subsisting on the flesh of the common honey bee. I have no name for it, neither can I tell from whence it came nor how long its visit will last. It appears to be confined to localities. I have not as yet seen any feeding on my bees, yet one mile from me they are committing a fearful devastation. Their mode of catching the bee is, by alighting on the back of the bee and carrying it to some prominence, and if left alone soon destroy it vitality. They are very swift on the wing, but easily caught, and less wary when feeding on a bee. Any information concerning its habits and general character will be thankfully received. A. STURGILL.

Pickering, Mo.

Your letter was kept for some time in the *Rural World* office and was finally handed to me without the specimem. Yet I have little doubt from your description, that the insect which destroyed your bees, is a large two-winged fly, which I have called the Missouri Bee Killer (described in my second report as *Asilus Missouriensis*, but ascertained by subsequent comparison, by our dipterist, Baron Osten Sacken, to be the *Proctacanthus Milberti*, Macq.). These flies "capture the bee on the wing, pouncing upon it with lightening-like rapidity; then grasping it securely with his fore-legs, they alight upon some plant or even upon the ground, and rapidly suck out the inside of the bee, with the stout proboscis, leaving the empty shell when they get through. Mr. Thompson says that beneath some favorable perch that is near the apiary, hundreds of these bee shells may be found accumulated in a single day; while he has watched and found that a single fly on one of these perches destroyed no less than 141 bees in that period of time."—1st Report, p. 168.

There are several other species of these rapacious flies, which have the bad habit of killing bees, but the apiarian will care little about their specific differences. They should all be destroyed, "and though very strong and rapid flyers, they may be easily caught settled on any little prominence with a bee in their grasp; for they are so greedy of the bee's juices that they are at this time less wary, and even when disturbed will fly but a few yards away before settling again." A net, such as is used by entomologists, and as is described in my 5th Report, will be found useful in catching them, and there is no other way of preventing the mischief they do.

"The habits and preparatory stages of our *Asilus* flies are not very well known. They are all canibals in the fly state, sucking out the juices of their victims with the strong proboscis with which they are furnished, and by which they are capable of inflicting a sharp sting on the human hand. The larvæ are footless, and live in the ground, such as are known in state are strangely enough, vegetable feeders."—2d Report, p. 123.

A box 6½ inches high, and 15 inches square, in the clear, will contain 20 lbs. of honey in the comb.

For the American Bee Journal.

Answer to H. W. S.

MESSRS. EDITORS:—Permit me to answer a few points as briefly as possible, in an article written by H. W. S., of Cincinnati, in the JOURNAL for January.

He says in the second paragraph, "That a few facts are observed, but they are supposed to be connected together in a very illogical manner." One of which is the collection of moisture in the mats and on the insides of the hives and the errors of attributing it to aqueous vapor emanating from the bees themselves, while "his experience is that the moisture comes through leaky roofs."

While this is no doubt the case when the roofs are defective, still there is no fact better established in apiculture—however "illogical" it may seem to some—than this one; that bees confined to the hive during cold weather consume a vast amount of oxygen from the atmosphere to keep up combustion, in order to maintain the requisite degree of heat, exhaling carbonic-acid gas and water in the form of vapor. In all animal life it is seen, that combustion is carried on more vigorously in cold than in warm temperatures. The temperature of the body undergoes no change in passing from the torrid to the frigid zone, the increased combustion compensating in a great measure the more rapid loss of animal heat in low temperature. The same power to adapt itself to different degrees of temperature no doubt exists though to a less degree in the honey-bee. If we expose a bee suddenly in the heat of summer to a temperature not lower than one in which it would fly briskly in the winter, it would soon perish; showing that the combustion then going on is not sufficient to resist as low a degree of temperature, as in the winter.

Now, the products of combustion whether from fuel in the grate, or that constantly taking place in animal life, is invariably the same; carbonic-acid and water, and the quantity produced—other things being equal—is always in proportion to the fuel consumed, and if egress is not given it in some way, the vapor will be condensed on the first cold surface with which it comes in contact.

He says "he covers his blankets with tarred paper which excludes the external moisture, and therefore his blankets are dry."

I suppose the tarred paper is laid loosely on the blankets with the tarred side up, allowing the air to pass between them, and evaporate the moisture.

Any one having any doubts on this subject, can easily demonstrate the fact, by inverting a tin box over the blanket the size of the hive, and securing it that no moisture can escape, and none enter from without; then examine it after the mercury has remained for a few days and nights several degrees below freezing, and he will be surprised at the quantity of moisture that has been condensed on the cold metal in the form of frost, which if it were allowed to accumulate during several weeks or months, he would have an approximate idea of the whole quantity thus thrown off and what the condition of the hive and bees would be if this had been retained.

The idea that moisture in any considerable quantity is generated by the bodies and respiratory organs of bees, seems to be ridiculed throughout the article, and he takes human physiology to prove his position, and says: "In human life there is so little extra moisture, that it requires accurate experiments to find it," while the fact is that it amounts to several pounds daily.

Put on gum boots without lining over woolen stockings; they will soon be found wet with prespiration.

The soldier finds the underside of his gum blanket that he has slept under during a cold night, lined with frost, from comparatively small portion of the aqueous vapor exhaled from the body during the night.

The question is asked, "In what case of animal life does the moisture emanating from their bodies, condense to such an extent as to dampen and mould their beds?" I would answer, whenever that moisture is confined to the bed. Try a rubber bed, with rubber coverings, at a temperature low enough to condense moisture; confine closely all the vapor generated by the body and exhaled from the lungs, and I imagine the bed in the morning will be found uncomfortably moist.

For this very reason we use the kind of clothing and bedding we do in cold weather; and try to apply the same principles in the management of our bees. One, while it is a non-conductor of the animal heat generated by the body, is sufficiently porous to convey the aqueous vapor to the external atmosphere. We have ventitators in our houses; our doors and windows, with our fire-places and their flues, constantly changing the atmosphere around us and carrying off the surplus moisture.

Each bee in the cluster is of itself a little chemical laboratory and furnace, with chimney attached, receiving its supplies of fuel from the atmosphere and the carbonaceous materials in its food, which, when combined in its system are consumed, generating heat, the carbonic-acid gas and water escaping as effete material or smoke.

Now, one great object in every bee-hive, should be to have some means by which this effete matter can be carried off. It is of no more use to them in the support of animal life, than the smoke that escapes from the chimney is fit for combustion; but on the contrary, the carbonic-acid is as surely fatal to animal life, when inhaled in large quantities, as water is to quench fire.

As we cannot very well use a single large chimney for this purpose we resort to a great number of small ones. We employ *capillary force*; that force which raises the oil in the wick, the sap in the plant and tree, and in this we have thousands of minute chimneys, as the medium, transmitting these gases to the external air, where it is diffused instead of being condensed within the hive, to be vaporised again and again as the temperature changes.

The writer further says; that, "In the face of the fact that bees will stop air-tight every crevice except their entrance," bee-keepers will persist in putting blankets and mats on their hives for the purpose of ventilation." That they will plaster up a thin piece of wire gauze, there is no doubt; but we do deny, that they in a state of nature, make or attempt to make their homes air-tight; a fact which further along in the article is practically admitted; where he says, speaking of hollow trees: "The walls are generally in a decaying condition, being spongy and porous, and full of air cells." Just so; not "air-tight" then, but just what is needed to absorb the moisture, and just what we try to imitate with our straw mats, quilts, boxes of charcoal and chaff, straw and shavings; in short, something that is "spongy and full of air-cells."

Thus far we can imitate nature and no farther. Here the parallel with the natural home ends.

With all our patent hives, with their air-chambers, and absorbents we cannot endow them with the vital force possessed by the living tree with its millions of capillary tubes, terminating on its hollow surface, sucking up, as it were, every particle of surplus moisture, and carrying it to its remotest branches.

It is a fact, I believe, which has been generally admitted by bee-keepers, that bees, other things equal, as regards care and protection from severe changes of temperature, winter better in the old

fashioned log gums than any other kind of hive. I am unable to understand why this should be so ; unless it is that the gum is a continuous cylinder, contracting and expanding with every change of temperature, charred as they usually are and exposing numerous fissures which expose the mouths of innumerable capillary vessels, so as to facilitate the absorption and escape of moisture.

I have frequently noticed that blankets or carpet, when tacked on hives just sufficiently large to cover them, they become damp; but when I have accidently left them large enough to extend one-third or half-way down the hive on the outside they remain dry.

This can be accounted for on the same principle, that if we place a roll of candle wick in a vessel of water, extending only a short distance above the surface, the liquid will ascend in the wick and be slowly evaporated ; but if the wick is drawn out some distance and allowed to hang down, this capillary force is greatly increased and will soon empty the vessel.

These are natural forces governed by natural laws which every day we see demonstrated, and which we need only to comprehend and apply to attain the objects in view; and before we are wedded to any particular theory it should be tried by the test and if that theory is not in conformity with those general laws it is sure to lead to false conclusions.

Washington, Ind. J. A. SCUDDER.

For The Amerian Bee Journal.

Bee Notes From Kentucky.

MR. EDITOR :—After a long absence from the columns of the AMERICAN BEE JOURNAL I again appear ; this time I presume to meet a great many new subscribers and novices, to whom I may be a stranger. We notice a great many new writers the present year, and but very few of the old veterans of a few years past. What has become of them. Where is Dr. Bohrer, Burbank, Gallup, and others whose articles used to adorn the columns of the JOURNAL? Have they become discouraged and lost interest in bees, in consequence of the great bee malady the few past winters ? If so, this is wrong, for hog and fancy poultry breeders do not get discouraged to such an extent as to quit the business when their whole stock is cut off with *cholera;* nor would this be acting wise to do so.

I have never as yet encountered any sort of disease among my bees. But for the last three years, I have encountered bad seasons equal to a bee disease. The season of '72 was but a poor one. That of '73, as bad as any I ever knew, and until May 1st. this season, we hardly had a day fit for bees to fly out, for the great rains. The rains ceased in the 1st week of May, when the great draught commenced that held out about 9 weeks with no rain of any consequence intervening. The honey season was but about thirty days, and when it commenced the bees were very weak and had to have time to recruit, during the honey yield. So weak were my bees when the long rain ceased, that I could have doubled up the thirty-five odd stands into ten strong ones. I had fed liberally during the rains—but it seems that the bees became tired, waiting so long for the rains to cease—and so a great many ventured out in the rain every day nearly and got lost.

I had such a number of queens engaged that I did not double up a single stand; keeping them all for nuclei. Now for the result. The thirty days from the day the rain ceased was the best honey season I ever knew. The 35 weak stands soon got strong and increased to 67 and gave me twelve hundred lbs. surplus, besides raising over a hundred queens. Besides this there was the best fall bloom I ever knew, in which I got about six or seven hundred lbs. more of surplus, besides every stand even the weakest is now very full of honey. I have two New Idea hives with about four or five times enough to winter on. So I think I can safely set the amount of surplus at 2000 lbs.as I was unable to attend to my bees part of the time owing to indisposition.

This is enough to encourage any one who is becoming discouraged by bad seasons in succession. Another encouragement was I found a ready market of 30 cents for comb and 25 for machine, right at home this season. This was doubtless owing to the great scarcity of bees, caused by the bee mortality the past few winters.

The above shows the importance of always getting bees strong before the honey harvest sets in. I had my bees stronger the 1st of April than they were the 1st of May. I found it easy to get them strong but how to keep them so during a continual rain, in the first part of the honey season, was the main trouble, especially when every day was a wet one. I could not keep them from flying out in the rain.

If any of your correspondents know how to keep bees from flying out in the rain in the midst of the honey harvest, especially when the rain is a continued one of a week or two—mine was about seven weeks—will they give it through

the JOURNAL. Had my bees been strong when the rains ceased I ought to have got two or three times as much as I did.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

Honey at the New York State Fair.

In notes on the Fair of 1874, held by New York State Agricultural Society at Rochester, we read that "the exhibition of honey was fine and never better." If the display of honey there made, was such as to draw the encomiums of the officers of the State Society, perhaps a detailed description, as seen by your correspondent, may not be uninteresting to the readers of the AMERICAN BEE JOURNAL.

The first premium for largest amount of box-honey produced by one colony, was awarded to Mr. M. H. Tennant, of Stranwix, whose figures stood at 180¼ lbs.

The first premium for largest quantity of extracted honey, produced by 1 colony, was taken by Mr. J. H. Hadsell, of Breedsport, whose exact figures I do not recollect, but think they were something over 200. The main strife among competitors seemed to be mostly on box honey as to what style of box is best, all things taken into consideration, for marketing our surplus honey at the present time, is a question of dollars and cents with comb honey raisers. The variety in styles of packages attracted much attention and as there were competitors from different parts of the State, the display was not only attractive but practically instructive.

Mr. Tennant's sample was in old style of boxes and though of creditable appearance, not quite up to present requirements, the packages being too large to bring highest market prices—so with Mr. Griswold's sample—nice honey, but not in shape to call purchaser's attention. Mr. Bettsinger's of Marcellus Falls, was in narrow sectional boxes. I believe the same as advertised and sold by himself and Mr. Geo. T. Wheeler, of Mexico, N. Y., and largely in use in that section and known in New York as Syracuse style. As Mr. Bettsinger's were nicely cased, they showed to the best advantage and could but be very convenient for retailing purposes. Mr. Hadsall's sample hung in frames similar in size to Mr. Bettsinger's boxes, but not as tastily put up, yet well arranged to show all the merits in that way of getting surplus.

Mr. C. R. Isham's boxes were wood tops and bottoms of any desired size and of any kind of timber—some polished off in fancy style—some merely planed smooth with glass sides and ends held to place by angular bright tin corner pieces pronged to pass through the wood and clinch, making as strong and nice box as could be desired by the most fastidious; and profitable to the seller, as they can be manufactured about as cheap as almost any style of glass box.

Part of Mr. Isham's lot was in small single comb flaked boxes 6½x2½ and weighing about 2½ lbs. gross, the ends showing the pure liquid honey in cells built against the glass, while the sides gave a view of the white-capped comb in all its natural beauty and purity.

Some empty boxes in which had been fastened pieces of white comb were quite a novelty to those not familiar with the workings of the honey-bee and drew forth many expressions of praise to the instinct of the industrious little insect.

The 1st premium was awarded to the honey in the glass boxes above mentioned and exhibited by Mr. C. R. Isham, of Peoria, Wyoming Co.

The committee found more difficulty in deciding to whom to give the 2nd premium, but finally agreed to give it to Mr. Bettsinger's sample; but as he declined the 2nd premium, they gave it to Mr. Peter Miller, of Fredonia, a well merited tribute to Chautauqua's veteran bee-keeper.

I will conclude by remarking that a spirit of good-feeling prevailed among the honey exhibitors, and though the premiums were liberal, they were not the only inducement that brought them there—but a desire to further the interests of bee-keeping, by presenting samples of honey put up in style to give satisfaction to both producer and consumer, eliciting their interest, as was evinced by numerous inquiries and demonstrating by practical example, what these industrious little workers will do, if care at the proper time is taken to give them plenty of room in which to store away their surplus gains.

"OBSERVER."

For the American Bee Journal.

Jefferson County Bee-Keepers' Association.

The Jefferson County Bee-Keepers' Association had since my last report organized, adopted a constitution and by-laws, and held several meetings. Every meeting was well attended and a great deal of interest taken by all who were present to promote the prosperity of the Association.

The following are the officers elected for the ensuing year: Christopher Grimm, President; William Wolf, Secre-

tary ; and Adam Fuerbringer, Treasurer. The election of a Vice-President was dispensed with. Fifteen members signed the constitution at the first meeting and a great many more have signed since.

Although the past season here could not be called a first rate one, the reports from the different members of this Association on increase of swarms and surplus honey are very good, and sum up as follows : Colonies in the spring, 1,285 ; increase 1,150 ; total 2,435, put into winter quarters.

Comb honey	28,467 lbs.
Extracted	15,032 "
Total	43,499 lbs.

All of the above comb honey was sold for a price ranging from 18 to 30 cents per lb, and the extracted from 12 to 18 cents per lb, except 250 lbs. of comb, and 400 lbs. of extracted honey on my hands yet.

One of the main questions discussed in these meetings was as follows : How can bees be wintered without loss? William Wolf, of the village of Jefferson, opened the discussion on this topic. I have wintered bees on their summer stands, in clamps, and lately in a house built for that purpose, I would not under any circumstances recommend in this northern country, to winter bees on their summer stands ; bees wintered out-doors would need just double the amount of honey as when wintered in clamps, cellars or repositories. And further I will state that I always lost one colony out of three when I wintered them out-doors on their summer stands. In regard to wintering bees in clamps I would state that they have done well, except one winter ; when in the spring the snow melted and water got into my clamp and drowned many bees. I would therefore advise bee-keepers who winter bees in clamps to select for that purpose a dry, high place where no water under any circumstances could get into it.

The last four winters I wintered my bees in a house built for that purpose, the first winter they wintered well ; 2nd, heavy loss ; 3rd, heavy loss ; 4th, some loss, but not so heavy as 2nd and 3rd winter. I account the cause for losing so many the 2nd winter to the smallness of my house, having put in the house 184 colonies of bees, they produced too much heat and before the weather was favorable in the spring so that bees could be taken out from the house, they left their hives, fell down on the floor and died, dead bees covering the floor from three to four inches deep. The third winter which was two years ago, when the thermometer stood from 28 to 34 degrees below zero for one whole week, my house was too cold. The sawdust had settled on the sides and the naked boards were no protection for my bees and they froze to death.

The last winter I lay the cause to the weakness in numbers of bees in some of my colonies, at the time I put them in my repository. If our bees are in a good condition at the time we put them up for wintering, not kept too warm neither too cold, they will winter well, but if kept too warm it will induce them to commence breeding, they will get too dry and suffer from thirst, the young bees hatching while in the cellar, clamp or repository have no chance to fly and clean themselves, and on that account will get effected with disease. If kept too cold, the vaporation of the bees will freeze and the comb will get wet and mouldy.

C. Grimm stated, I have experienced very little difficulty in wintering bees. Since 1868, I kept bees in this country, have always wintered them in the cellar and had very good success.

In the summer of 1871, I built a new cellar at my farm for the purpose of wintering my bees there. The cellar is built on the side of a small hill, so that from one side where the door leads into it, it is level with the surface and I can walk in without climbing up cellar-steps. It is only protected on two sides, the other two sides had no protection, except one foot brick wall which was insufficient to keep the frost out, in this cellar I put my bees the next winter.

One cold morning when the temperature was 28 deg. below zero outside, I went into my cellar and found it only 10 above zero. I opened nearly all the hives which were on top, and was surprised in finding the bees, in every one I opened, inclosed in a lump of ice ; put a stove in my cellar at once and used artificial heat to thaw them up. From this time until the weather got warm I kept a fire every day to keep the frost out and to dry the hives.

On the 29th of March, 1872, I took my bees from the cellar and put them on their summer stands, and found among 77 colonies only two dead, although I disturbed my bees many times during winter.

In the winter of 1873, I did not use any artifical heat, I protected my cellar with sawdust to keep the frost out, and have succeeded in doing so. On the 26th of March, took them from the cellar and found after examination among 132 colonies, four dead, all the rest had wintered

well, but lost six colonies more in the spring, after I put them on their summer stands.

The last winter the weather was very mild and we had a great deal of rain in the months of February and March,so that water got into my cellar. I had it bailed out twice and sometimes three times a day, but one morning when I went to my cellar I found the hives standing next to the bottom, 3 and 4 inches in water, saw at once that it was an impossibility to keep the water out by bailing. I therefore employed some hands and ordered them to dig through on the lowest side under the wall of the cellar to let out the water, which came from the bottom of the cellar in a good stream ; they succeeded after a day's hard work.

Although I had more or less water in my cellar for six weeks before I took my bees out, I found (March 18th) when I did take them out not a single colony dead among 134 I put in the cellar, and only two affected with disease. Every comb bright and clean, except those that had stood in the water. This convinces me, that bees in a dry cellar will towards spring suffer more from thirst, than bees will suffer on account of dampness in a damp cellar.

I agree with Mr. Wolf, that bees put up for wintering should be in a good condition, they should not be kept too warm, neither too cold ; if kept too warm it would induce them to commence breeding, they would get dry and suffer from thirst, the young bees hatching in the cellar, repository or clamp, would not have a chance to fly out and clean themselves, and on that account would be effected with disease. If bees are kept too cold the evaporation of the bees would freeze the combs and get wet and mouldy, and if not sufficient ventilation is secured from the outside and plenty of fresh air admitted, it will create a bad smell and bees will get sick and die.

After further discussion on the same subject the opinion was general, that bees can be wintered in a cellar, repository or clamp without any or but very trifling loss ; if, when put up for wintering they are in a good condition ; (that is to have plenty of honey, to be strong in numbers, and have a young queen,) they are not to be kept too warm neither too cold ; (temperature not below 35 nor above 45 deg. Fahrenheit,) they should not be kept in a too dry nor a too damp place ; if kept too dry they will suffer from thirst, if kept in a damp place their combs will mould, create a bad smell, and bees will get effected with disease if plenty of fresh air is not admitted, or artificial heat used.

The meeting then adjourned until January 30th, 1875.

CHRISTOPHER GRIMM, President.
WILLIAM WOLF, Secretary.

For the American Bee Journal.

Why is it?

MR EDITOR :—Why is it that my bees always winter well on their summer stands, notwithstanding the mercury goes as low as 32 deg. below zero, as in the winter of 1872-3, and yet no sign of dysentery, when other bee-keepers who wintered otherwise, lost heavily while I lost none?

Why is it that bee-keepers object to fall honey for wintering, when we in this neighborhood, winter on honey that is gathered in September, and never have the dysentery among our bees?

Why is it that some box hives that I bought, wintered (without any upward ventilation at all, and was air tight) as well as my other hives that had on honey quilts and caps filled with chaff?

Why is it that I got 20 cents ℔ lb. for my extracted honey in half bbls., from the oldest and most reliable wholesale grocery and commission house in St. Louis, and other bee-keepers are complaining of dishonest honey merchants?

Oskaloosa, Ill. D. M. LASWELL.

For the American Bee Journal.

Letter from Kansas.

EDITOR JOURNAL :—Three poor years for the bee-keeper in succession and two poor years for the farmer makes me feel as though there might be a better place for both professions, in fact after reading what bee-keepers are doing in other places we do not feel like owning that we keep bees at all. We did not keep them very well last summer; during about ten days in the latter part of June they seemed to be determined to fly away without much ceremony. If they would alight they would in many cases not give me time to get from the field to the house before they would be gone. That is one great objection to the Italians, they are bound to swarm just when you want them to stay in the hive and work. Mr. Hazen tells us to use a non-swarming hive, but we have no faith in it, for we have known them to swarm when the hive was not half full of comb, and last season we had one to swarm the second day after hiving, but they were put in a hive of empty comb and got away entirely unknown to me. I had weighed the

hive in the morning to see how much honey they would gather through the day, on weighing it again in the evening it was just 10 lbs. lighter. I then examined the hive and found there was a medium swarm and a queen.

I have said that the last three seasons were poor, and so they were as a general thing, but in some localities they done better than others; mine has paid but little over expenses in the years mentioned, last season I got 900 lbs. extracted honey, and this winter so far have lost about one-third of my bees.

N. CAMERON.

Iowa Bee-Keepers' Association.

On Wednesday Jan. 20th the annual meeting of the Central Iowa Bee-Keepers' Association was held in this city.

After transacting routine business the following resolutions were adopted:

Resolved, That this convention adjourn to Wednesday the 17th day of February next at the City Hall, in Cedar Rapids, and the committees are instructed to have their respective reports prepared—especially that relating to the success of Bee-Keepers in 1874.

Resolved, That the growing interest and value of the apiary, in the State, especially its central portions, invite not only a full attendence of our members, but also of others interested in this rapidly increasing source of wealth in Iowa—now standing only second to any State in the Union in this branch of material prosperity.

Resolved, That THE AMERICAN BEE JOURNAL of this city, and other city papers, daily and weekly, are requested to publish these resolutions, and that their exchanges interested in this subject be requested to copy.

J. M. MAY, Secretary. D. W. THAYER, President.

For the American Bee Journal.

Solid Frame.

On page 214, Vol. X, No. 9, of the AMERICAN BEE JOURNAL, in your reply to Mrs. G. W. Church, you say some bee-keepers always allow a margin in this way to secure more care in taking out the first frame. When it is so left, care is necessary when honey is plenty to prevent the bees from filling the vacant space with comb."

Now, this care means a great deal of trouble and yet with hives that have no movable sides, this margin is positively necessary to save the life of the bees and perhaps the queen. To avoid all this trouble and yet to secure the advantages this margin offers I use what I call a solid frame. It is nothing more than a thin and light partition of board made the size of the frame so as to move easily; this is put in the extra space or margin, and pushed up to the comb so as to allow a passage for the bees between. There is then no further trouble; when you want to open the hive you have only to push the solid frame back against the side of the hive and lift it out clear of the combs. You then have room to work freely, besides having no bees killed.

Austin, Texas. B. H. IVES.

For the American Bee Journal.

The Italian Test.

In a late number of the JOURNAL I asked if there was any fixed and certain test of Italian purity. I did this in part because some of our most prominent bee-keepers were maintaining that "a few black bees" among the Italians were "no mark of impurity." It seemed to me, that if black bees were to be found among the Italians, "even in Italy," as had been asserted by Mr. Dadant in a previous number of the JOURNAL, it would be of little use for us to hope to improve the grade of our hives by importations from that country.

But Mr. Dadant comes to our relief (?) in the November JOURNAL, by telling us that it was not *black* bees, but only "seeming black bees" that he saw in Italy. They were black, yet only in appearance, and that from the effects of their food and fœces. This explanation may be satisfactory to Mr. D. but to my mind it seems "rather thin." If they were "seeming black" bees, as termed by Mr. D. how does he know that their color was caused by the matter within them? or how does he know they were not genuine blacks? May I not, with equal reason, say of any one and two banded hybrids, that they are only *seeming hybrids*; that one or two of their rings has been temporarily obscured by their food or fœces, and that their rings will re-appear in their full luster as soon as the dark matter has passed from their bodies?

I don't believe that any three-banded Italian bee ever took anything into its stomach so dark as to render it in appearance like a black bee. On one occasion a year or two since I fed a few of my Italian stocks a mixture of very dark sorghum molasses. I could easily discern the dark matter through the wings, but the rings themselves were as readily distinguished as before the molasses had been taken into their sacs. I have also often seen Italians with their bodies greatly distended with very dark fœcal matter, and yet they had no appearance in common with the black bee. The peculiar workings of the Italian and black bee are so different and distinct, that the merest tyro in bee-keeping can never be at a loss to distinguish one from the other.

I have no reason to doubt the statement of Mr. D. that he saw "a few black bees" among "the thousands of well marked" in Italy; yet I do question very seriously his judgment, that such bees were only "seeming black," and not black *in blood*. His own statement convinces me, that many of the bees he saw, were as much hybrids, as any we have in America. And I believe

that this fact accounts for the further fact, so many of the queens imported from that country are impure.

It is useless for Mr. Dadant to assert, or to guarantee even, that all the queens he or any body else imports, breed invariably "workers with their yellow rings." I know it is the general complaint with queen-raisers, that imported queens are very uncertain breeders.

I will close this already too tedious article by reiterating my judgment, that any queen that fails to breed workers *invariably with three yellow and distinct bands* can not be relied on as a *pure queen*. Whenever even *one* "seeming black," or "seeming" one or two-banded worker is found among her brood, she should be discarded as a breeder.

Charlestown, Ind. M. C. HESTER.

For the American Bee Journal.

"The 'Moon' Shone Bright."

Kind northern reader are you shivering in the cold? Are the dreary November days beginning to scatter down the round hard pelletts of snow? Do even these messengers of the Ice King seem afraid of the cold? Yes, you look pinched up and your face is fairly blue. Why you are half frozen! Just get in by the fire, tumble in the fuel and let the blaze roar at old Winter, while you doze off and dream you are with me this warm sunshiney day, away down in Georgia.

Leaving the Chattanooga & Atlanta R. R. at Kingston we take the pleasant little family railway leading over to Rome—a distance of 20 miles. The beautiful Etowah—"clear water,"—down whose banks we wind, sparkles under the sunlight, the bright foliage of the deciduous-leaved trees interspered with somber evergreens, the warm breeze which fans us through the open window, and the drowsy quietness, all combine to render almost perfect the illusion that we are entering the long-sought Elysium.

But be sure, my friend, that your fire is kept up for if you should get chilly and rouse up so as to catch a good glimpse of those fields of cotton clad in their snowy whiteness, the spell would be broken and the stern old Ice King would again reign over you. Members of the "colored persuasion," of nearly all ages and both sexes are leisurely pulling the cotton from the opening balls, and the train pauses every now and then for a breath, and to afford us a better view of the dexterity of the pickers.

We have our minds made up that "while in Rome" we will "do as the Romans do" but on arriving at that pleasant little city at 2 p. m. we are somewhat surprised to see the Moon, bearing a face radient with smiles, shining brightly down upon us, while the quiet inhabitants seem to regard the occurence as a common one.

We find the sanctum of the *Bee World* vacant, and wending our way to the apiary find its manager, our friend Moon, with sleeves above his elbows, in the midst of transferring. His cordial welcome places us at ease immediately. Then comes a ramble and a bee-talk among the 140 neatly painted hives which decorate the south-eastern slope from the house. We find a beautiful lot of Italians obtained from various sources and we are gratified at having an opportunity to compare the stock of so many of our prominent queen-raisers. Mr. Moon prefers frames 10 in. deep by 15 long—certainly a very good size for a standard frame. What surprises us most is the statement which our friend makes in answer to an inquiry concerning some colonies that appear weak. "Certainly they will winter here. It is no trouble in the world to winter bees in this climate." Then too it takes only about 12 or 14 lbs. of honey.

Why couldn't you sorry chaps, that put the quilts over your bees and tucked them up more than a month ago, have sent them down here and had 20 lbs. of honey gathered by each stock after Sept. 15th, let them frolic the whole winter, and then (if you didn't change your mind before spring) you could ship them back home after the March and April revels among the Southern flowers, to regale themselves among the linn forests and orchards of the North?—A winter resort in the South and a summer home in the North. How delightful—eternal spring and summer.

After the friendly bee-talk and the pleasant entertainment by our charming hostess—our friend's daughter-in-law,—we find ourselves the next day reluctantly leaving the beautiful little city which nestled among seven hills, like the ancient "Mistress of the world," gives promise that it will yet make its influence felt. We think it is the most beautiful little city we have visited in the "Sunny South." May the culture and evident progress of its inhabitants "rule the world!" FRANK BENTON.

Nov. 19th, 1874.

I wintered on summer stands, losing two stocks out of 25. Sold one stock in the spring and one stock became queenless early in the spring, and again in July, and gave me no increase or surplus, so I count 21 working stocks. With those I have increased to 44, and took 2418 lbs. of nice comb honey. Average price of honey 27¾ cents. I have kept bees but four years, and my bees are mostly black.

Tully, N. Y. J. E. LLOYD.

For the American Bee Journal.

On Wintering Bees.

MR. EDITOR :—As there is a great deal said in your Northern journals about wintering bees in cellars, caves, etc., which does not interest us in the sunny South, where we can winter them far better on their summer stands, perhaps it may not be amiss to give my way of wintering here. If you think it will be interesting to your readers you may insert it in your valuable journal.

You may think we need take no precaution here to winter our bees, where they are able to fly almost every sunny day during winter, but observation shows me that the mortality of bees here is as great in winter as in the far North, for we do not take pains here to prepare them that our Northern friends do. But if every one here would take a little trouble to cover the tops of the frames with a sheet of straw wrapping-paper and put a little cotton-seed on top to the amount of 1 or 2 inches thick, we should hear no more of bees dying in winter. The above is my practice, and of 200 stands put up in this way last winter, I lost but two, which I think died for want of honey. As I kept on swarming my bees last year until the 7th October. It is not strange that I should loose one per cent of them in wintering. In preparing for winter I even up all my colonies, by taking from the strong and giving to the weak, which I consider no robbery. D. STAPLES.

Columbia, Mauray Co., Tenn.

For The American Bee Journal.

Remarks on Eccentric.

MR. EDITOR :—Who is Eccentric? How do you distinguish a man who is afraid to write over his full address from a coward, or if this name is too hard, I take it back and say "*timid*." I dislike to read articles under ficticious names, and were I editor of a Bee or Poultry Journal no such articles could enter into its pages. But men differ ; it takes all sorts of people to make a world. I am not condemning at *wholesale*. But let us examine and see what good such articles do. In reading the JOURNAL my custom is to hop clear over such articles and first read our responsible names, and such as Eccentric's last. Yet, Eccentic's article was good, notwithstanding. Let us look for the bad.

He says : "The season just closed has been rather a dull one in our locality."

Now what good does this do the readers of the JOURNAL unless he told us where or in what latitude his locality was. Is it not mere idle scribble ; do we care to know how the honey season was, unless we know the whereats and whereofs, at Black Hill or Florida? But enough of this.

He asks where are the old brilliant writers of the JOURNAL. They are all living, except Dr. Hamlin, of Tenn., whom we miss very much indeed. The others did not disappear from the JOURNAL without cause, known to themselves only. I as well as Eccentric wish they would return, for I want to read their spicy articles again.

Next he pitches into the City Honey dealers ; there now, friend, Eccentric, you are right, "*give it to em*;" they have no business to damage or destroy our business. We who have spent seven years of hard study in winter, and hot stinging practice in summer to learn Bee-ology, not for our own but for the benefit of coming generations ; are we now after a hard toil among bees, in the heat of the day, to get nothing but a mere pittance for our honey or be cheated out of it altogether, by these City Honey dealers. No, this is too hard for us ; we can't stand it. Something must be done and that quickly. We must either form a Grange, or unite with the Granges and have our own Honey houses. But I would say to Ecccentric, if he does not already know it, that it is not all the City Honey dealers who will adulterate honey. Some of them are too honest and conscientious to do such a thing, as for instance C. F. Muth, of Cincinnati. I have not been in Muth's Honey store, but a friend of mine whose word I have entire confidence in, has assured me that he has been all through Muth's honey store and that he buys and sells nothing but the pure unadulterated article. This is the sort of a house to recommend itself. I sold my honey at home at fair prices. If I had any so send to a city, I would sell to no other than such a dealer as Muth.

He next pitches into New-Idea *hives*. True they were lauded to the skies, in such a way as even to induce Argo to try *em*. Last season was the first one that was fit to try a hive, and I gave four of them a fair trial, reported once or twice and said : "so far, they have given entire satisfaction." By the words "so far" I mean so far as I had trid them. But the winter trial was to come yet, and now Jan. 11th, so far, I am not satisfied with their wintering. Thus far we have never had a milder winter, and yet bees do not winter well in those long new-idea hives, at least mine do not. The bees all crowd to the front part, leaving about three-fourths of the hive, or nearly, unoccupied and unprotected. In all of Gallup's writing as to how his bees wintered in them he said "splendidly." So also said Adair ; if I am not mistaken. Well how is it that Gallup's bees in the far and cold north could winter so splendidly in those long hives and mine here in a much milder climate, not winter at all? Will Gallup or Adair answer?

But for Italians in a good honey season I know of no better hive to get large amounts of surplus. I got the most surplus from one of these, and I believe the others give more in proportion. I am well pleased with them in summer so far as tried, but not so in winter, yet I would advise novices to wait until I try them further. I promise a faithful report, not like the man who would pursuade himself that a thing was so, then report it as a fixed fact, when it was so only in his head.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

A Friend or Enemy?

The Illinois State Horticultural Society held its annual meeting in this city, from Dec. 8th to 11th inclusive. Prof. C. V. Riley, State Entomologist of Missouri, was present, and delivered a lecture on the grape phylloxera or gall louse, a leaf parasite very troublesome on some varieties of grapes, particularly the Clinton. He stated that the phylloxera was less troublesome on sandy than on clay soils. The reverse of that is true in this vicinity at least. During the session of the Society I took occasion to hand the secretary the following:

MR. PRESIDENT:—I would like to know whether this Association considers the honey bee a friend or enemy? A certain professor of entomology considers it an enemy, and has recommended poisoning it. I consider it a horticultural assistant. Would like an expression of opinion by this Society. Respectfully,

MRS. L. HARRISON.

The president read the communication to the Society, and immediately, H. J. Dunlap, of Champaign, moved that the bee be considered a friend, which was promptly seconded. Prof. Riley jumped to his feet and exclaimed "that means me, that's to draw me out," Mr. President, I hope that question won't be passed without discussion; I would like a chance to explain my position, and as the time is all occupied this afternoon I hope the question will be deferred until evening. At the request of the president, Mr. Dunlap withdrew his motion for the time; but at the evening session it was again brought before the house by Mr. Gaston, of Lacon, who said "Mr. President, I would like an expression of opinion on the bee question. I consider the bee a friend to horticulturists; nature's great hybridizer, benificial in the cross fertilization of flowers, and in rendering fertile many sterile ones, a true utililarian, saving many cracked fruits that would otherwise be wasted, and the great nation of Russia finding they can get more clover seed with the fertilizing of the blossoms by bees, are importing bumble bees to fertilize the red clover."

The speaker was loudly applauded; and Prof. Riley being called for, arose and said, "Mr. President, I think highly of the honey bee, very highly indeed; I am a friend of the bee, I think it does a great deal of good; but in some seasons, in times of great drouth, when bee forage is scarce, I think it does damage, indeed I am certain of this. I watched the bee very closely for several years, before I could tell whether it did any damage or not; but one season, a very dry one, I saw two acres of Herbemont grapes nearly ruined by them. I think it is only on exceptional seasons that it does any damage. I would not recommend poisoning them, but think persons living on a small plot of ground ought not to keep them, in sufficient numbers, to annoy their neighbors at times when bee forage is scarce. On the whole, I consider the bee more of a friend than an enemy."

The members of the Society, that I conversed with, seemed to think the professor had "come down," considerably from his first statement on the bee question; admitting as he did "that the damage bees did (if indeed, they did any) was so slight that it took several years of close observation to discover it." I think the damage is becoming microscopic.

Peoria, Ill. MRS. L. HARRISON.

For the American Bee Journal.

Evaporating Honey.

Friend Ives, in Jan. number, speaks about evaporating honey by heat, in shallow pans in the oven, and in a kettle brought nearly up to boiling point. We tried the latter plan and made a grand success of it, for we succeeded in changing No. 1 honey into third-rate sorghum, without the least particle of a honey taste in it. We used it to make vinegar of. We now have in the cellar some large crocks of honey, very thick and clear, without a sign of souring or candying. Some of it was extracted after being capped over, and some the next day after it was gathered. We put it in large jars, cloth over the top, lay a board on it, and have no trouble in getting it evaporated without any more work. Therefore, friend Ives, if you want to keep the flavor of your honey *don't boil it.*

In my article in Jan. No., page 13, the name "Ross," should read "Roof."

Oneida, Ill. W. M. KELLOGG.

A Dozen of the Same Ilk.

Yesternay about a dozen bee-keepers met at the house of Mr. Tennant, about seven miles north of Eureka. We spent the day in talking bees and topped off with a fine supper. While we were in "conneil assembled" in a large upper room, the wives of the sturdy bee-manipulators talked bonnets &c. &c., below.

Those present represented about 800 stocks of bees, and about 15000 lbs. honey, of which 7000 was comb and 8000 extracted.

Nearly all doubled their stocks during the season. Mr. Bardwell, of Omro, got 2200 lbs. extracted, and made no comb honey, he sold most of it at 20 cents per lb.

Mr. Editor, this was a moddel bee-keeper's convention, for we agreed at least on one thing, and that is, that 45 degrees is about the right temperature to keep bees in winter.

Our next meeting will be held July 1st. after which semi-annually. No initiation, no fees, no blow, but a good social time; we hope this may give others a hint.

Berlin, Wis. J. D. KRUSCHKE.

Voices from among the Hives.

C. McDERMOT, Malone, N. Y., writes:—"I wish some one would advertise cat-nip seed in the AMERICAN BEE JOURNAL. I would sow some if I could find the seed."

A. E. KITCHUM, New Garden, N. C., writes:—"In answer to your enquiry as to the number of bees kept in this State, I estimate 18,000, or about an average of five colonies to each keeper."

ROBERT T. JONES, Flat Rock, N. C., writes:—"I would recommend all who wish a hedge fence to plant the holly. It is an evergreen, and in a few years will make a good impenetrable fence, in good soil, from the seed. The seed should be sown before spring. It is difficult to transplant, unless taken up with great care.

J. M. TELLER, Chandlerville, Ill., writes:—"I have 36 stands stands of bees, and four are late swarms. Last summer out of 32 stands I had 2,200 lbs. of honey in the comb. Can any one beat that? My bees are nearly all Italians, never allowing more than one swarm from each stand, and sometimes none. The season will decide about that."

JOSEPH JONES, Pittsburgh, writes: "This has been a poor season for Bees. Very few swarms and little honey. The spring was cold and backward. I commenced with nine in the spring, all weak. Increased to sixteen in fair condition for wintering. I winter in a double-walled house this winter. Will let you know how they come out in the spring."

H. GOODLANDER, Leesburg, Ind., writes: —"My bees are all right, so far no signs of dysentery, nor the famous "bee disease," (except stocks under experiment), while my neighbors' bees are badly affected with the dysentery, and I think fully one half, if not more, will die before spring. If Mr. J. W. Margrave will send me his P. O. address he can have the information asked for. Some one has sent me $1.00 for seed but gave no name or address."

M. VOGLE, Boyne, Mich., writes:—The December and January numbers of the *Resources of California* contains particulars about Mr. Harbison's apiaries in San Diego, his crops, sales &c., with the honoring testimony that our brother bee-keepers there are the best settlers of the country. The editor says: "We are informed that the bee-men alone have done more in the settlement of the country of San Diego this year than all other classes, and more than had been done in the past five years. I long for a chance to sell here to go there."

JOHN W. WILSON, California, writes:—"This seems to be the natural home for honey bees. They do extremely well in almost any kind of box, keg, barrel, or hive, for they are kept in all those things here. Of late there has been considerable improvement made by a few enterprising bee men in this lower country, in the mode of keeping and managing bees. We started in the spring with 120 stands, 50 of which were weak and in the old box hive, which we transferred to frame hives. The other 70 were in frames deeper than we wished to use and we had those to cut down; so we had rather a bad start. Our stock increased naturally to 300 stands. We have taken nine tons of extracted honey and one ton of comb. I took 302 lbs. of comb honey from one of our early swarms, and they, made ⅝ of the combs themselves. Our bees are all doing well and gathering some honey now. If the season continues as it has set in, we will have swarming in February."

AARON BENEDICT, BENNINGTON, O., writes:—"The instinct of the bee is to void its excrement only on the wing, and will not do it any other way, as long as it can possibly contain it; hence the advantages of the box. The boards should not be less than a foot wide. Place the hive in the warm room near a window, and the bees will take wing readily and discharge their accumulated fœces—keep bees well supplied with flower as soon as they will work on it. Wheat screenings is as good as anything. Many bees starve after they are nearly wintered; when a little food would save them. If honey is not at hand to feed, take Coffee A Sugar, add soft water sufficient to make a syrup about the consistency of thin honey, bring to a boil, and it is ready to feed. Take common glass tumblers, fill nearly full with syrup, tie a piece of cotton cloth over them, turn bottom upwards, place them immediately over the bees on the frames; or if common box hives, over holes in the top, place a box, to keep out the robbers. If bees have to be fed when it is too cold for them to fly out, and void their fœces make a box of suitable size to cover the hives, make the box without bottom or top, for the upper side, tack on wire, screening or bobinett will answer: take the bees into a warm room, place the box over the feed on top, and let the bees have a chance to fly. There must be strips of cloth or paper spread over the frames, or the bees will smear the tops of the frames. After the bees have consumed their feed and had a good fly in box let the room gradually cool, and the bees will go down and cluster in the hive, they should then be set out on their regular stands. In the above manner I have saved many colonies that otherwise would have perished. Bees should not be fed with liquid food, unless they can fly out.

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

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Honey Markets.

CHICAGO.—Choice white comb honey, 82@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main st.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO. — Quotations from Stearns and Smith, 423 Front st.

We wrote for your January number, that the season was very forward and the bees were working on new feed. As we have had but two slight rains for fifty days, and none in thirty, once a very heavy frost, the prospect is not now as favorable for an early and abundant crop of honey. Prices unchanged from our last quotations.

☞ Strained Southern Coast, at 7@10c; Comb, 12@20c; the latter figure for San Deigo, in Harbison frames.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents each for, to complete them.

We have several single volumes (complete) which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.50 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00 postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginers and more advanced apiarians.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, MARCH, 1875. No. 3.

American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

Wintering Bees.

Sir Robert Peel was accustomed to say, "Ireland is my difficulty." In like manner, the bee-keeper in this climate, may say with truth, "winter is my difficulty."

We have found a remedy for most other difficulties, but it is not too much to say, that this one remains unconquered. The serious losses of the past two or three seasons, induce feelings of uncertainty and apprehension, now that another winter is upon us.

Until recently, the common custom was to winter bees on their summer stands. During a moderate season, this was found to answer very well, but long-continued severe weather, and especially the pervalence of bitterly cold winds, caused great mortality and heavy losses, even with doubled walled and so called frost-proof hives.

In-door wintering too, has been tried and found wanting. Sometimes it works well, and on the whole, it has been more successful than the other method. But there has been many failures. These have been variously explained. Lack of warmth, insufficient ventilation, too great warmth, close confinement, damp, impurity or thinness of honey, disturbances of the bees, extreme quietude, artificial feeding, and the want of it, are among the most prominent theories that have been put forward to account for the failure of in door wintering.

Mischief usually develops in the form of dysentery, and the explanations above enumerated, relate to the cause of this trouble. In a state of confinement, the excrementitious matter is retained in the body of the bee. Its habit is to discharge its fœces when on the wing; If bees cannot fly, the fœces are undischarged, unless distension and discomfort compel them to befoul the hive. Under favorable conditions, in which but little honey is consumed, and the bees get into a state of semi-torpor, this retention of the fœces may continue a long period. Bees have been known to remain five months in winter quarters without a discharge, and yet came out vigorous and well. A warm day is chosen to release them from confinement, so that when set out doors they can at once enjoy a cleansing flight. It is not always possible however to secure the conditions necessary to enable stocks to endure a whole winter's imprisonment. If they are too warm they become active. Exercise creates appetite, appetite leads to a larger consumption of food, the digestive organs become over-crowded, and vent must be had. When once a hive becomes foul with excrementitious voidings, it is unwholesome, and things go on from bad to worse. If there is not proper escape for the moisture of the hive, or if the winter quarters are damp, mould is developed and the fatal dysentery sets in. As already stated, other causes lead to the same lamentable result.

To prevent the over accumulation of fœces, means have been adopted to give the bees a mid winter flight. The hive has been taken into a warm, well-lighted room, and opened, so that the inmates might sally forth, and relieve themselves. Or a box covered with wire-cloth has been fitted to the top of the hive, and the bees have been permitted to have a

little liberty in it, once or twice in the course of the winter. In some cases these expedients have been successful. But they are attended with considerable trouble, and with a large apiary, they are well nigh impracticable.

An intelligent bee-keeper has recently propounded the theory that the cause of all the trouble is want of water. He argues that bees are well known to be large consumers of water during the active season. They cannot manufacture honey or rear brood without it. All animals require more or less water, and cannot sustain life any length of time without it. In proportion to its size, the bee consumes more water then the horse or cow. Why then should the bee be expected to do without water all winter, any more than larger stock?

The theorist referred to contends that dysentery is caused by a feverish condition of the system, with a high state of local information in the stomach and intestines, and an evil condition of the humors or juices of the system, accompanied by inflammatory action. In this corrupt condition, these humors have actually become a disease, occupying the whole system of the honey-bee, and being so diseased, the physical system of the bee attempts to expel the offensive matter, by sending it to the intestines, where it is thrown out in the form of dysentery, and death follows, as there is no supply of water to replenish these juices, which are as essential to life as the breath. Water would have prevented all this, by keeping up a supply of these juices, and maintaining an equilibrium throughout the system; but dry food cannot replenish the juices without the aid of water.

There is certainly an air of reasonableness about this theory. We do not know whether its author has experimented upon it so as to be able to sustain it by facts. But it is worthy of attention by bee-keepers generally. When bees are wintered out of doors, they have occasional opportunities for flight, and at such times, can obtain a supply of water, as it is only when the sun has power enough to thaw ice and snow, that bees venture to fly in winter. It may also be the case, that in those well authenticated instances of in-door wintering which are on record, there was enough moisture generated in the hive to supply the bees with moisture and yet not render the hive damp and mouldy.

It seems to us that experiments are greatly needed just now in three directions, with regard to this matter of wintering.

1. To get, if possible, a hive for out-door wintering which shall be impervious to frost, and yet not so close as to keep the bees too warm. Keyes & Finn, of Clyde, Jasper County, Iowa, advertise in the AMERICAN BEE JOURNAL, that they have a hive which meets these conditions. It is double walled and has a chaff ventilator and feed box. They state that the past three winters have established the fact that their hive "*winters bees safely every time* on their summer stands." Quite an array of testimony from bee-keepers of good standing sustains their advertisement. We have not tried the hive in question. In fact, our first knowledge of it was derived from an advertisement in the December number of the AMERICAN BEE JOURNAL.

2. The plan of giving bees one or two cleansing flights in winter is deserving of further trial. Though difficult of adoption with a considerable number of colonies, and as we have said, well nigh impracticable with large apiaries, bee-keepers who have only a few stocks might practice it to advantage.

3. The water theory should also be thoroughly experimented upon.

Serious as the winter difficulty confessedly is, it ought not to be regarded as insurmountable. Surely it can be overcome by patient investigation and persevering experiment. He who shall tell us how to winter our bees with unfailing success, will certainly deserve the well wishes of his fellow-bee-keepers, and of mankind at large, for it is here that, just now, we most of all need enlightenment.

C.

Seasonable Hints.

The first of March is, in most places, too early a date to take bees permanently from a winter repository, or cellar, but if they have become uneasy and excited, it is well for them if on some warm day, the hives may be set out and opened, so that they can fly freely, and then be returned again to winter quarters. We do not advise this, however, when the bees are quiet. In that case they are just as well to be left undisturbed until there is a prospect of continued pleasant weather. In many localities bees flew so freely last fall until a late date, that they will bear a little longer confinement this spring, without injury.

No exact time or rule for weather can be given. Every bee-keeper must exercise judgment and common sense in this matter. We are always pleased, when we are able to set our bees out early in March. A few cold days, after they have once taken their cleansing flight, does not injure them, but much of the season's success depends on the care taken of them the first month after they are placed on their summer stands. Every opening in the hive should be closed except a small entrance—the bee quilt or mat placed snugly over the frames, plenty of food be provided near the cluster of bees, and the entrance shaded in some way from wind and the direct rays of the sun. One thing must be borne in mind now. We want a good, strong force of bees to gather our honey harvest, when ever it comes. To secure this, brood must be in progress six weeks at least before the time of the harvest, and plenty of it. If, then, we expect our honey harvest in May, we should in this month be using all efforts to foster brood rearing, and if this is done the colony will be full of bees at the time when they are profitable. This same advice applies to those further South, who expect their harvest a month or two earlier. Their feeding to stimulate brood rearing should begin six weeks at least, in advance of the main honey harvest. If bees are amply supplied with sealed honey, it may be unnecessary to feed them, and yet we find that a little diluted honey or sugar syrup fed to them regularly stimulates them to rear brood faster. After the brood is well started, if you can give them a comb or two of sealed honey, it is well.

Put out rye meal for the bees just as soon as they are set out of doors. We often receive inquiries how to feed rye meal, in spite of all the directions that have been given how to do it. In reply to them we say here, that we feed the meal in some sheltered place and in shallow pans or boxes, using several of these boxes and putting only a quart or two at a time and spread it thin, dry not wet. The bees can best work it into pellets if given in this way. It is no use to feed it to them inside the hives.

A piece of honey comb put with it in the first place, is useful in attracting the bees to it; after they find it, they will take it strictly until natural pollen comes in the fields and trees. We know that in our locality this feeding of meal is very important,

We cannot too strongly impress upon beginners the importance of attending well to their stocks when they are first put on their summer stands. Every hour of care bestowed on them now will be repaid largely in the months to come.

T.

Answer to Mr. Dadant.

We are glad to give Mr. Dadant's article a place in the Journal, being willing that in the matter of imported bees, as in all else, both sides should have a fair hearing.

In regard to the assertion that Mrs. Tupper is "changeable" in this matter, we are willing our readers should decide whether a woman who has followed bee-keeping persistently for seventeen years, can hardly be called "fickle;" and leave it to them also to say, if after having spent over three thousand dollars in the one branch of importing, she is not very wise now to let others bear the expense of further risk in the matter, or at least until

those who have been to Italy and Lombardy decide if black bees are found there now, even if they have been "imported there from outside Italy!" Not having been there, we are not competent to talk on that point. We have names and letters from those who have received queens from Mr. Dadant direct, that can be given to any inquirer who wish, either privately or in the JOURNAL, asserting that queens direct from Mr. Dadant, said by him to be imported, produced black bees and hybrid ones. To our minds these letters prove nothing until we know the circumstances under which they were introduced, &c. Our readers may think differently. Now that Mr. Dadant has "said his say," we cry "enough," unless Mr. Bingham or Mr. King wish to be heard. While our columns are open for both sides on any subject of interest to bee-keepers, we have no room for prolonged controversy.

T.

Progress in Bee Culture.

We clip the following item from the Vinton, Iowa, *Eagle*.

Mr. William Hunt, an extensive farmer in this county, living three miles west of Center Point, has lately given special attention to bee culture. Mr. Hunt secured the services of A. W. Colburn, a practical apiarist, who has recently transferred about a hundred hives of the ordinary black bees from the old gum logs to Langstroth's improved two-story hives, in each of which are placed from sixteen to twenty-four frames, About half a ton of honey has already been secured, without the distruction of a single hive. A friend called at Mr. H.'s the other day, and witnessed the process of extracting the honey. With one of Murphy's improved extractors, the honey was removed from several sets of frames in a few moment's time, without injury to the combs, which were replaced in the hives. The hives have been averaging twenty pounds of honey daily. The large forest of basswood trees near by, gives the bees a fine chance to make a good report. If bee owners want to make the business pay, they had better take a look at Mr. Colburn's operations at Mr. Hunt's.

Mr. Hunt is very enthusiastic over the management of his bees. He calculates to clear over a thousand dollars on his bees this year, although the recent transfer from one set of hives to another, did not enable them to make as good returns as they would have made had they been ready to go to work on the improved plan early this spring.

Co-Relation of Bees and Flowers.

The bees, Mr. Darwin says, have solved a difficult problem. They have made their cells of a proper shape to hold the greatest possible amount of honey with the least possible consumption of precious wax in their construction. No human workman is skillful enough to do what a crowd of bees can do, working in a dark hive—make cells of wax, of the true form.

The number of bumble bees in the country will depend upon the number of cats. How can that be? Because the number of bees is dependent upon the number of field mice, which eat the bees. Hence the more cats, the fewer mice, the more bees.

If the whole genus of bumble bees became extinct, or very rare, the heart's ease and red clover would become rare or would disappear. How is that? Because bees promote the growth of those flowers. The visits of bees are necessary to the fertilization of some kinds of clover, and almost indispensable to the fertilization of the heart's ease.

In a word—no bees, no seed; no seed, no increase of the flowers. The more visits from the bees, the more seed from the flower, the more flower from the seeds.

Nearly all our orchidaceous plants absolutely require the visits of insects to remove their pollen masses, and thus to fertilize them.

Twenty heads of unprotected Dutch clover yielded 2,900 seeds. The same number protected from bees, produced not one seed; one bundred heads of unprotected clover yielded 27,000, and the same number protected from bees, not a seed.

OBITUARY.—R. C. Otis, who is well known to the bee-keeping fraternity, died at Mount Pleasant, Iowa, August 31st, 1874, in the 61st year of his age.

M. M. BALDRIDGE.

St. Charles, Ills., Jan. 14, 1875.

John K. McAllister & Co., are our duly authorized agents for the AMERICAN BEE JOURNAL, at Room 27, Tribune Building, Chicago, with whom any business may be transacted with our approval, and be promptly recognized by the manager of this paper.

Foreign Department.

CONDUCTED BY CH. DADANT.

For the American Bee Journal.

The Birth, Mating and Laying of the Mother-Bee.

Generally, eight days and twelve hours are necessary from the sealing of the cell until the birth of the young queen.

According to F. Huber, eight days elapse from the moment when the cell is sealed over the larva until the time when the young queen leaves her cradle, but she ordinarily remains in the sealed cell for eight days and ten hours, provided the proper heat be furnished, for the royal larva spins its cocoon in a day and a half or thereabout, and is a pupa for seven days. I once noticed that a royal cell remained sealed for 8 days and 15 hours, and another for 8 days and 9 hours only. It is known that with an inferior heat the pupa might remain in the cell much longer than the usual time. I have introduced royal cells that had only been sealed for three days, in empty hives with a temperature of 19 to 23 deg. Centigrade (66 to 73 deg. Far.). The birth of the young queen was then retarded from 3 to 6 days, when returned to their colonies two days after. Many pupæ died on account of the low temperature. In experiences of this kind, when the thermometer is attentively watched to find the degree of heat in the brood chamber one can with certainty ascertain the time that it will take for the young queens to emerge from their cells. In the absence of a thermometer, all the observations that can be made on the duration of the pupa state, are valueless for scientific bee-culture.

We can divide the time that it takes for a queen to hatch in three parts, as follows :— From the time when the egg is laid. From the time when the larva leaves the egg. From the time when the larva is chosen as royal larva.

You should proceed with great care to calculate the time during which a queen lives in the brood state. No certain result can be arrived at, if we take a common brood comb and employ it for experiment, for in this case we do not know when each egg was laid that will be chosen for a royal larva. To ascertain exactly the time when the egg is laid I introduce an empty comb, clean, in a rich colony whose queen needed room to deposit her eggs. After half an hour, I found this comb occupied with eggs. I removed it immediately although it contained but five or six eggs. If I had waited until it was entirely occupied with eggs I would not have known at what time the eggs had been laid. I did not give this comb to a newly made artificial swarm, for such a swarm is not quiet enough to insure that the egg will be properly cared for, on account of the excitement caused among them by their having been queenless for a short time. It often occurs in such swarms that the bees when hunting for larvæ, extract the eggs from the cells. In such a case the experiment would be without result. I preserved colonies that had been queenless for some time already, especially for this purpose. I removed all the unsealed brood from one of these hives and replaced it with that comb containing but a few eggs. Now these bees were obliged to raise a queen from eggs of which I knew exactly the time of laying. But here again one might mistake, if we did not use the thermometer in the brood chamber, and if we did not ascertain that the eggs are continually and properly hatched, for if they lack the proper heat, the period of development of the egg will be prolonged further than the normal time.

To know exactly the hour when the eggs were laid we can also form an artificial swarm with a laying queen. By giving this swarm clean empty combs, two hours afterwards, eggs will be found in the cells.

For the American Bee Journal.

Bees, Wasps and Grapes.

Some persons imagine that the bees injure fruits and especially grapes. They are greatly in error. It is useful to insist on the part taken by bees and hornets in the prejudice done to our vineyards. First let us consult the books. I do not find a single book on agriculture or horticulture, fruit or grape culture, that does not cite the wasp among noxious insects that should be fought incessantly and mercilessly ; while not a single book mentions as such the industrious honey-bee, whose vindicator I now am.

The wasp pierces the fruits ; to the grapes it leaves nothing but the skin and the seeds. The bee only profits by those spoils ; for she usually goes from blossom to blossom, gathering honey in gardens and fields. If at times she is seen in orchards or vineyards, where she only goes after the wasps, it is only to gather the remains of the feast.

Curious experiments have been tried, it appears : Some sound fruits were placed simultaneously within the reach of both wasps and bees, the former have soon achieved their work of destruction, while the latter starved to death.

Therefore, bees do not eat grapes. So, it is with profound conviction that I say to those who wish if not to prohibit, at least to render impossible the establishment of hives in the neighborhood of large cities, under the fallacious pretext that they destroy grapes. Respect the bee, since she respects our fruits : let her live in peace near us, she never will be ungrateful. Is she not the mysterious instument that helps and facilitates the phenomenon of the fertilization of flowers, and perhaps produces those innumerable and beautiful varieties by carrying pollen from the calycle of one into that of another ? Is she not the living image of work, that gives us the perfumed honey and the wax that we use so diversely ?

Respect the hives, leave them where the industrious genius of man placed them, for they are a source of wealth for the roof that shelters them, and for the country that nourishes them.—*Rucher du Sud Ouest.*

September, 1874.

Always feed your bees for two or three days after they have swarmed, be the weather fair or foul. They will repay your attention and your liberality with usury, before the season is over.

Correspondence.

For the American Bee Journal.

Odd Tidings.

The "Proposed Remedies," No. 1, pp. 18 and 19, 1875, are excellent, but will not prevent failures in safely wintering bees, while paying no attention to that most important factor,—quality of the honey!

"Novice" is right in saying, that the nature of honey has much to do with it. I experienced and witnessed this many times; but the best testimony is given by Baron von Ehrenfels, the too-long forgotten master in the kingdom of queens and bees, who will find his resurrection amongst the bee friends of this new world.

In his excellent, old treaty or bee-book, this man of 1,000 hives, in olden times, tells us about bee-dysentery as follows: "At Stollhof, in an apiary, next a pine forest, I wintered 300 stocks, weighing from 30 to 80 lbs. The winter was a hard one and therefore much honey was consumed for keeping up the warmth. In March and April, 1801, I found more than half of the colonies so very unpeopled, that often the queen was left with only 20 to 30 worker bees in a honey-store of 40 to 50 lbs. It crawled around, discouraged and alone, smeared by the droppings, the fly-holes coated by it, and the workers, swollen bodies, lay motionless scattered on the hive!

"I guessed quickly the cause, else I should have lost all stocks. In a hurry I ordered from my traveling apiary, near Vienna, flower-honey and buckwheat honey, strained pure and cold, that is got out of the combs without any crushing or melting, fed this in open troughs, often and plentifully before the stands. All the workers who could make efforts enough, went for this honey and, just now, dysentery ceased, brood and bees multiplied daily, and stocks, many weakened down to 100 workers, recovered!

"So, in forest regions, honey abundance turns out to be more dangerous than honey dearth. Miraculously, here also in other cases, I always saw the queen being the last to die. After all workers were dead, she alone was left living. Wherefrom this durability, this conservation? Never taking honey out of the cells, but ordinarily out from the mouth of the workers, even in this case she gets warm honey and probably fresh digested for her, insuring and saving her from being poisoned."

I say by this kind and quality of honey, most abundantly and extraordinarily produced from other organs, processes and sources than flowers, richly flowing, dropping like dew—honey dew—hurriedly gathered, stored and sealed, and so not enough, not twofold or twice digested, that is neither first by the proper organs of plants (the blossoms) nor finally and sufficiently in the stomach of the bees. And now you see, even a fly-spell under glass, muslin and the like would not help and save your pets from this bad occurrence. But your bees can be cured and saved from death by dysentery when this fatal diseased is caused by the bad effects of the three kinds of honey,—dew honey; unripe, (thin or unsealed); sour honey,—or artificial food.

But "prevention is better than cure," and therefore each bee-keeper ought to prepare to preserve and to feed in the right time and manner, this only one safe and normal, natural winter food,—full combs of (or extracted, swung out) blossom honey, (best from buckwheat) and ought to keep always a full reserve of such pure and healthy feed honey on hand for his own and other bees.

APIPHILUS.

For the American Bee Journal.

Down With the Importation of Bees.

In the last convention of the North American Bee-Keepers' Association, a few bee-keepers have fired at the importation of bees.

Mr. A. Benedict was first to begin the fire. He said that he supposed that there were hybrid bees in Italy. Upon reading this I wrote to our friend to know on what he had based his supposition. But in his answer, he could give nothing definite. He had seen some so-called imported queens, who were undoubtly impure. But, for himself, all the imported queens he had received were pure, and gave him the best bees.

The second bee-keeper who spoke against importation was Mrs. Ellen Tupper. Mrs. Tupper has since denied, in the AMERICAN BEE JOURNAL, what Dr. Rush had reported of her sayings; so I have nothing to ask but the names of the many bee-keepers who with Mr. King, complained of having received impure imported Italian bees, with the names of the importers. I will here notice that in a few months Mrs. Tupper has greatly changed her mind as to imported bees. In France we have a saying: *Souvent femme varie*, (Often women vary) and Mrs. Tupper shows that she is not an exception.

It seems that Mr. King is endowed with the same qualification, for, two years ago he asked praises for the importation, that he opposes to-day. As I like well-defined positions, after reading the assertion that he has seen impure Italian bees in Italy, I wrote him, to know the name of the apiaries, where he found these impure colonies. He answered, the same as Mrs. Tupper, that the report of Dr. Rush contained many errors, corrected, in part, in the *Bee-Keepers' Magazine*. In this paper Mr. King corrects indeed, some of his sayings, but he maintains that he saw impure bees in Italy. I wrote a second time asking for the name of the apiarian. "Mr. King thinks best to mention no name." Best! for whom? For me, or for Mr. King? As it is not for me it is therefore for him. Yes! and as I know the why, I will disclose it to my friends. It was at the apiary of Major Hruska, that Mr. King saw, or said that he saw, impure bees. In narrating the fact Mr. King adds: that Mr. Hruska told him that these bees were brought to his apiary from other parts. Now, when Mr. King and Mr. Hruska were face to face, they were both in great embarrassment. Mr. Hruska could not understand Mr. King, and Mr. King could not understand Mr. Hruska. The one could only speak German and Italian, the other only English. Hruska, who is a rich man, worth about $300,000, is apiarian by pleasure, and enjoys

his time in experimenting. He had received black bees to experiment on the pathenogeneis, and these stocks, or their offspring, were those that Mr. King saw at his apiary. But why is it that Mr. King does not think best to mention the name of Hruska? Aye! there's the rub. A few months after his return from Italy, Mr. King received 18 stocks of bees from the same Maj. Hruska, and advertised them in his paper for $30 apiece, as *unquestionably pure*.—See the *Bee-Keepers' Magazine and National Agriculturist*, of Dec., 1871, p. 92, 1st column. Thus the words, burning shame, and other flourishes, which seasoned the speech of Mr. H. A. King, against imported bees, fall on his own head.

Now I will pay to Mr. King $200 for the name of a bee-keeper in Italy having hybrid bees in his apiary, unless they were imported there from outside of Italy. We will appoint the president, cashier, and secretary of the Central Society of Bee-Keepers of Italy, all three men of honor and reliable, to ascertain the fact. And if the assertion of Mr. King proves true I will pay all the charges of ascertaining the fact. If the assertion is proved untrue, Mr. King will pay the charges, but these charges only.

I know in advance that my offer will remain a *dead letter*, as did the offer of Mr. Furman about the fertilizing of queens in confinement; but it will end the accusation of impurity of bees in Italy.

Let me say that I know the motives of these attacks against the importation of bees and that I will disclose them in the JOURNAL if my opponents desire it.

Had not my name been mentioned by Mr. Bingham, in the Michigan Bee-Keepers' Convention, I would have let pass unnoticed what he said about imported bees. But he said, "if Dadant could get a queen good for four years, he could stock the whole country with queens." How does Mr. Bingham know if my imported queens are long or short lived? He has never received one from me; besides I dare him to name some bee-keepers complaining of having received short-lived queens from my importations. I suppose that before complaining to Mr. Bingham, these bee-keepers would have complained to me first, and I have as yet received but one complaint. The Italian bees are as long lived as the black, the only difference is that as soon as the Italian bee begins to show signs of prolificness, she is replaced by her bees. While the black bees preserve their queens even until she becomes drone laying by old age, and that difference is to the advantage of the Italian bees and their owner. But Mr. Bingham has never had confidence in the Italian bees, and I remember having seen some articles by him against them, a few years ago. It is therefore little to be wondered at, if he was opposed to the importation of queens in a paper which condemned, in emphatic terms, the promiscuous importation of Italian bees. As I am the only regular importer of Italian bees, I suppose it is my importations that Mr. Bingham aimed at, and I want to answer, when the American bee-keepers were receiving queens from Germany, Tyrol, Switzerland and Italy, the term promiscuous was applicable. But I receive my queens from one of the best bee districts of Italy. The man who sends these bees is reliable and honest; he owns 300 stocks of bees and I pay 30 per cent. more per queen than their value in Italy, to get only young and prolific queens, tested from chosen stocks. Is that what is commonly called promiscuousness?

Mr. Bingham adds: "In carrying queens from apiaries affected with foul brood, it will communicate the disease; hence the great danger of importing bees." Now if Mr. Bingham can point me to a bee-keeper able to read the Italian language I will send him the full collection of the Italian bee paper *L'Apicoltore*, and I will give Mr. Bingham ten stocks of bees if this man can find in the whole seven years, a sole complaint of foul brood by an Italian bee-keeper. Foul brood has never existed in Italy. If foul brood could be imported with queens, I should be the first victim, as every queen, as soon as received is introduced into a colony of our apiary till she is rested and has commenced to lay. But I am less fortunate than Mr. Bingham. I know the foul brood only by books and hearsay, for I have never seen that malady in our apiary, nor in our neighborhood.

I think that Mr. Hester will find in this article an ample answer to his article on the purity of the Italian bees in Italy. If he could come here in the beginning of April, I would visit with him sixty stocks of bees with imported mothers, and to show him that he was too hasty in judging imported bees from the bogus imported queens that he had received.

CH. DADANT.

Hamliton, Ill.

For the American Bee Journal.

Shallow or Tall Frames.

I have just been reading in the Feb. number of the JOURNAL, which came promptly as usual, the report of the Michigan Bee-Keepers' Association at Kalamazoo; and as a whole I regard the meeting as a very useful one; and the report contains many good things and useful suggestions. But then there are one or two things I notice that seem very strange. For instance, Mr. Bingham gives us some of the "tallest" special pleading in favor of shallow frames, that I ever read.

Now, Mr. Bingham is no doubt a successfull bee-keeper; but his reasons (?) for the use of the shallow frame (except that of facility of handling) are, it seems to me, as shallow—begging his pardon—as the frames themselves. He says: "Small shallow combs give more brood early in the season. Heat ascends sooner than it radiates: hence in tall hives it is lost." I can't see how Prof. Cook could listen to such assertions as these. Now let us see what these reasons amount to.

1st. Heat or heated air ascends. True,—but wherefore lost? Can you tell us, Mr. B.?

Now, I am only an amateur and consequently not "set in my way" about any particular form of hive; but what little experience I have had goes to prove the opposite of the proposition, and in favor of the deep frame, and I think I can tell *why*. And, first, the air of a hive may be likened to strata lying horizontally upon one another, and numbered for convenience, say from 1 to 5 from bottom to top, and growing warm as you go from one to five. Secondly, bees cluster either outside or inside a hive

when left to themselves, in a compact mass and shaped like an egg; or to speak mathematically, an oblong spheroid. Thirdly, brood rearing in early spring, other things being equal, depends on the temperature inside the hive. Fourthly, the brood must be at that time of the year conform to the shape of the cluster. For example, we will take a frame say 10x15 inches; lay it down, *a la* Langstroth, and place your cluster of bees on it. Now, I claim that if the cluster preserves its normal shape the brood nest will be nearer the stratum of cold air at the bottom of the hive, than if the frame was turned longest end up and down; because the bees will cluster in the highest portion of the hive where the air is warmest. If a cluster of bees belonging to me stays up in the top of the hive where the air is warm, and a similar cluster belonging to Mr. Bingham spreads themselves out along the lower portion of the hive, I don't believe that even Mr. Bingham can get his bees to begin rearing brood any earlier than mine will, or get more brood in the same time.

I use a frame 12x12 and notice that my bees, now in cellar, all get as high up in the hives as they can.

I have no doubt that for facility of handling the shallow frame is best; but when you have said that, you had better stop. In the 12x12 frame I have struck, I think, between the extremes and can handle it easily enough.

R. J. COLBURN.

Chicago, Ill.

For the American Bee Journal.

Some Items.

If perchance somebody had been peeping through the cracks of our tight board fence, about the last days of June, they might have seen that your humble servant was not in a very pleasing mood, but was a fine subject "For Blasted Hopes" (see Gleanings in Bee Culture.) And now we will try to tell you what had ruffled up our feathers. We couldn't make those golden yellow-jacket bees work in boxes. We determined in April, that we would build up a given number of our stocks, so that their hives should be running over with bees by the time fruit trees were in bloom. We did so, selecting Italians, blacks and hybrids, as our apiary contains about her equal number of three banded blacks and hybrids.

In May we had 33 swarms, so we built up 20 by removing brood from the rest, such as could spare any. By the time white clover bloomed our 20 swarms were ready for the boxes; so we put them on—and now mark the result: Hybrids and blacks entered them and commenced work immediately. But those golden beauties (as some one calls them) preferred to lay out of doors. A few bees would go into each box, and some of them started small pieces of comb, always building it upward and some built up and down at the same time, making miserable work. A black bee would have been ashamed to turn out such a job.

Some one may say, this is no fair test.

Well, for the last three years, our apiary has been stocked with the same kind of bees, and the great bulk of our Honey has been stored by the hybrids and blacks, while all have received the same care and attention, and for box honey I will give more for a black or Italian queen that has mated to make a first cross, than for a pure Italian.

And yet I do admire them and honestly believe that they will store considerable more honey than blacks, providing the extractor is used exclusively; but I must have bees that will store box honey, for you know that is my hobby.

Some one may say, your hive are not right or the boxes are not adjusted so that the bees can enter them without much trouble. Our frames are 12x12½; we use from 8 to 13 in a hive; we use glass 5x7 inches for ends and tops of box scant ¼ inch thick for bottom. We get pine lath dressed to 3-16 thick; we cut them to length, and put them on the edge in mitre box and saw down ⅝ and split out the piece. After they are nailed on the bottom you have 3 slots 5½ inches long ⅝ wide in each box. Our frames drop 3-16 or nearly ¼ below the top, and when we put on boxes, we lay on a strip 3-16 on top of frames, right through the center, and then put on the boxes, resting on the top of hive and strip. The bees can then get into the boxes from any point, without a guide post, and if any one has anything that is better, and will give better results in box honey, send it at once to our good old A. B. J. for we want all the best plans we can get.

SIZE OF HIVE FOR BOX HONEY.

After using 3 different sizes of hives, respectively 8, 10 and 13 frames, we have come to the conclusion that 10 frames suit us the best, for box-honey. This size will accommodate 6 boxes, about 40 pounds. We sometimes wonder why some writers to the JOURNAL recommend box room for a hundred and fifty pounds all put on the hive at one time. Experience teaches us that no ordinary hive will furnish bees enough to work in more than 6 or 8 boxes from 40 to 50 pounds, at any time. We will admit that possibly they might enter a dozen boxes and build more or less combs in all of them, at the same, time, but we prefer to have on just as many boxes as they can fill. If the flowers are yielding honey 6 boxes will be filled before they send out a swarm, but if you had 12 boxes on, you would have more or less in all, but none filled; neither will it prevent swarming.

When we hive new swarms in our 10 frame hive, if we have no combs to furnish them, at first we put two swarms in each new colony, about 3 or 4 days apart; and put on boxes when we put in the last one. The first swarm furnished just bees enough to carry on the labors of the main hive, and the last swarm will furnish bees for the 6 boxes, and all will have plenty of room. If honey is plenty you may expect two setts of boxes filled, and a rattling swarm the first of August. We had swarms last year that gave us 18 six pound boxes, and swarmed in August.

As I said before, the Italians have a fashion of building upwards, through the slats in the box, and guide combs must run the same way or your combs will be in all sorts of shapes. We always get dark or fall honey, broadside to the glass, for this reason it looks much better than crosswise.

Many articles in the JOURNAL, from various sources, affirm that black bees amount to nothing in comparison with Italians. This certainly has not been my experience, and sometimes I am almost led to ask, if they give them an equal chance with Italians.

BETTER THAN QUILTS.

May 1st, 1874, we had a visit from a brother bee-keeper, and went to examine our bees, to show how they were doing. He said "I never saw so much brood as you have in your hives, for the same number of live bees." This is the way we got it: A box on each hive 4 inches deep; some kind of woolen tacked on for a bottom, 3 inches of wheat bran packed down firmly, and quilt nicely tacked down on top: when we put on the cap or cover we raise the quilt and the bran is warm as toast. J. BUTTER.

Jackson, Mich.

For the American Bee Journal.

Winter Passages—Machine for Cutting.

Those who are in the habit of making winter passages in the comb (as all should do who undertake out door wintering,) will at once see the utility of the implement I am about to describe.

I make a tin tube 3 inches long and ¾ of an inch in calibre, on one end I cut teeth similar to those of a rip saw, through the middle of the tube there is a slot in which to drive a tack to hold it in position while turning. I then make a wooden piston to fill the tube, insert this into the tube, drive your tack into the slot, and you are ready for work. To use it, you simply draw out the piston, turn until it locks itself; place it against the comb, turn it half round and push it gently through and the work is done. To prevent the bees from filling these passages in the summer, I take a thin pine shaving (⅞ of an inch wide) and place it in the cut, the bees will do the rest.

I have used this implement for three years past with much satisfaction, it is a decided improvement when compared with a knife used for the same purpose. "B."

Beaver, Penn.

For the American Bee Journal.

My First Year's Experience in Bee Culture.

I commenced in the spring of 1857 with two old box hives, in the last stage of decay from the moth, with all the care and attention I could give, increased my stocks to 20 in three years and sold not a pound of honey, the war closing out my stocks. I learned two important facts with box hive, that where the bee went, the miller would. Secondly, without some good work on bee-culture one had as well devote his time to other pursuits. But on investigation of the improved system, with the movable frame hives, I determined to make one more attempt at bee-keeping. So in the spring of 1873, I procured the two-story improved Langstroth hive. (I will add and make my own hives, what all bee-keepers should do) I bought of a friend, two box hives of black bees, paid $3.00 each. May 8th had a fine swarm to issue, hived them in my new hive all right, eager to have my bees in my new hives the same evening I transferred the mother hive, did a good job for the first got one sting, but dark found me gathering up the young bees crawling in every direction. Now don't smile old bee-keepers, you can imagine my feelings next day on examination to find young brood all dead, with my new hive full of good worker combs. I went immediately to my friend paid $1.00 for a swarm, introduced them and they did well. So much my young bee-keepers, for not having the A. B. J. or L. L. Langstroth on the honey bee, both of which I have now, that would have instructed me to wait 15 days before making that transfer. I bought July 10th two more box hives, paid $3.00 each, transferred them all right. I will not give in detail, my mode of transferring, you had better have your information beforehand. I bought of Dr. T. B. Hamlin, of Edgefield Junction, Tenn., August 3d, two full stocks of Italians in the transport box hive, paid $12.00 each and at the same time three tested queens paid $5.00 each, and with Dr. Hamlin's instruction on the mode of introducing queens. I destroyed 3 of my black queens, after six hours, removed honey-board placing my caged queens on the frames, over the greatest cluster of bees, in twelve hours, (had put four workers with each queen) on examination, found three of workers in two cages dead, the third all alive, and in twelve hours more, found the two queens and remaining worker all dead, and in the third found all alive, which I liberated in the usual manner, and I was in trouble again. Season far spent and my stocks getting low, I made known my loss to Dr. Hamlin and he agreeing to share half my loss, sent me two more tested queens for $5.00. Now some twenty days had transpired. My two queens received, on examination found two fine plump black queens, killing them and after waiting six hours, I commenced by moving my frames from the center, leaving room to place my cage, end down between the frames, supported by a wire pin across the frames, being sure to bring the cage in contact with honey, so if necessary the queen can reach the honey if neglected by the bees; and in forty-eight hours I had my two queens safely housed and would advise this plan to the novice.

I should have added if weather is cool place your blanket quilts over the frames. Now this brings us up to September 1st. My first queen has her combs full of young Italians, crawling and quiet. Something I had never witnessed in native bees. I am prepared to state the Italians far excells the black in gathering honey. I will add that the superiority and value of Italian bee has not been over estimated or half told. Now I have no stocks or queens for sale. They are the admiration of all who see them.

November the 1st, overhauled my seven stocks; found as I supposed sufficient stores to run them during the winter and fed some weak stocks some from those that had to spare. I then made some blanket quilts and straw mats. Such as C. F. Muth of Cincinnati, O., uses. My bees were out nearly every week through the winter, it being a very mild winter, my bees came through the winter safe, but we had the worst spring I ever saw in the South. Our fruit trees did our bees no good. I lost two stocks during February and March, and came near loosing the third; had I not taken it in my family room and fed sugar syrup, and kept it there forty-eight hours they would have perished. My bees made no surplus honey in 1873, all I got was in transferring.

I have in my yard young peach trees planted eight feet apart, with a hive be-

tween each tree, and a covering made of five clab boards; that is all the protection I have had. I dont think it sufficient shade; my trees were small and headed back well and will be sufficient the coming season. My hives are arranged to face the southeast, on an elevated point. Our people are taking some interest in bee-culture. We plant nothing here for our bees, they depend on natural supply, which is good some years, in our bottom. We have the poplar, holly, and maple, and from these the gums give us the most of our honey.

I desire to plant something, did I know what was best adapted to our climate. Will buckwheat do with us, and what time should it be sown? will some one tell us through the JOURNAL. T. A. SMITH.

Henderson Station, Madison Co., Tenn.

For the American Bee Journal.

Notes on Bee-Keeping.

Bee-keeping in these parts is far behind the times; the general impression being that it is a business that does not pay. Ask a bee-keeper to subscribe for the BEE JOURNAL and learn to keep bees right, and he will tell you that he knows all about them, that is necessary. Rather than pay two dollars for the JOURNAL, whereby they might form some idea of what a patent hive should consist, they will allow themselves to be humbugged as some have been the past season by paying three times as much for a patent hive, that is a disgrace to the little workers and when their bees are in they look no more to them until the time arrives as they suppose to take the surplus, but to their dismay the moth trap has been successful in hatching moths enough to eat up both bees and honey; such is the result generally.

I use a plain simple constructed hive with loose bottom and honey boards with back opening, frames set in from front to rear, size of frame 11x13 inches, inside measurement, and not less than eight frames to the hive, (no patent.) I used last season two of these hives one upon the other, making a two-story hive with ten frames in each; and once in buckwheat time, I extracted from this one hive four gallons of nice honey, with from three to five hives. I have honey for the table the year round while my neighbors with more swarms in box hives get no surplus. I have the only extractor that there is in my neighborhood.

There is another subject that I wish to notice; one which I have been watching with interest and which interests a great many. The question is asked by S. S. Elliot, (page 205 September number AMERICAN BEE JOURNAL,) how to purify wax and prevent its becoming of a dark color. I have not seen any answer to that question yet, and I will give your readers my plan. Heretofore the plan has been to take it through a process of boiling; but I use no water in extracting wax. Last season in transferring a swarm from a box hive to moveable frame, I had, as is always the case, some, some surplus comb fit for nothing but to be melted into wax; and having left them in the sun through the day, I discovered the sun had melted them and I had an article of pure white wax from the darkest comb; and acting upon that principle I procured a piece of sheet iron turned the edges up around, leaving one corner open for the wax to run out as it melted, placed it upon the stove elevating one side, and as it melted put in more being careful not to burn it; the result was I had a wax of beautiful yellow color.

In conclusion, I shall as ever press the claims of the AMERICAN BEE JOURNAL.

Adair, Ill. WM. G. WILKINS.

For the American Bee Journal.

Posting Up the Accounts.

We should now look over our last year's experience, and take into consideration our success and failures; examine into and find out the causes of both, so as to profit in the future by our past experience, and avoid failures hereafter.

The amount of honey taken by me last season, was about half as much per stock as the season of 1873, being about 28 lbs per stock: my increase was from 9 to 23. Our honey crop from linden, here, was splendid, and caused bees to swarm to too great an extent, as it was so dry here that there was no honey to be gathered from that time until after the middle of September; that being the first time that we had any rain since the middle of January. We had several days in July and August with hot southwest winds that cooked vegetation to some extent. The thermometer raising as high as 114.

I had two stocks out of the 23 that were very strong. They stored honey all through the season. My medium stocks about held their own; light stocks decreased in weight. That makes it evident that in a poor season, strong stocks are necessary. I fed about 300 lbs of sugar this fall, as an experiment to see whether it would pay to feed to any great extent here, in the fall, or not.

ED. WELLINGTON.

Riverton, Iowa.

For the American Bee Journal.

Proper Winter Temperature of the Bee House.

In the Report of the U. S. Patent Office 1859, Department Agriculture pp 90-91, is given some account of observations on the winter temperature of the bee hive, made by Prof. Newport. His experiments show that the temperature of the air in the bee hive and right in the cluster of bees may be as low as 30 degrees or two degrees below the freezing point. Upon one occasion the thermometer in the external atmosphere stood at seventeen degrees, the one in the bee hive stood at thirty degrees, but upon rousing the bees by tapping on the hive it rose in sixteen minutes to seventy, or fifty-three degrees above the external air. He states that the bees are torpid only at a moderate temperature, as it grows colder they generate heat by motion and quick breathing so as to considerably modify the temperature of the hive.

Although it is quite common for bee-keepers to winter their colonies in the cellar, I know of very few attempts to control the temperature and to keep a record of the winter temperature of bee houses and cel-

lars. A cellar that will keep fruit is considered good, yet the thermometer may work as low as 28 or 30 degrees and the fruit not be frozen. This appears to me to be quite too cold. My colonies are kept in a cellar, have ventilation above and below so that the air in the hive must be at very nearly the same temperature as that in the cellar. Now I have observed that the bees are more quiet when the mercury stands at forty-one degrees than when it is either several degrees above or below. From repeated observations made during last winter and this I can judge pretty well as to the temperature, by the sounds issuing from the hives. Upon allowing the mercury to sink to thirty-six degrees, the increased noise of buzzing told plainly that the bees were trying to keep up the temperature. I warmed up the cellar to forty degrees in four hours, and twelve hours after the bees had quieted down to their former condition. Of course it is easy enough to keep the temperature from falling below 40 or 41 degrees, but quite another matter to keep it from rising above that during warm spells of weather, at least it is so in Northern Kentucky; and just as soon as it becomes impossible to keep the temperature below 48 or 49 in the spring time, I move my bees out to their summer stands. As to the other conditions necessary to successful wintering, such as absence of light, moisture, and disturbance from the cellar, they are much better understood than the proper temperature: because their effects may perhaps be more easily traced back to their causes. But I would urge upon every bee-keeper, who houses his bees in winter, the necessity of keeping a record of the temperature of his depository, if not daily, at least at every marked variation of the weather. It may be, that in trying to comply with the conditions for successful wintering in the cellar, we have overlooked one of the most important.

January, 1874. W. C. P.

For the American Bee Journal.

"A Friend or Enemy."

EDITORS AMERICAN BEE JOURNAL:—In reply to Mrs. L. Harrison's communication in your last issue, permit me, for the present, briefly to say that your correspondent not only fails to quote my language correctly, but that she misconstrues and falsifies my statements. My statement that the Phylloxera is more injurious in a clayey than a sandy soil, was made in reference to the root-inhabiting form; while Mrs. H., lacking a proper comprehension of the subject, evidently has reference only to the leaf-inhabiting form. In what I am quoted as saying about the honey bee in its relation to horticulture, my language has been so garbled, and my statements so perverted that no greater injustice could have been done me even by one filled with malice and bent on carrying a point by fair or foul means. I beg of your readers, therefore, in weighing my opinions and statements, to consider them as given over my own name rather than as presented by others. In speaking of the injury bees sometimes do to fruit I used no uncertain, but quite positive, language; and as no one has ever read anything from my pen that would warrant the charge of my being an enemy to the honey bee—however much others may have misrepresented me—I fail to see where I have "come down," to use the elegant language of my censor.

In reference to the statement of Mr. Gaston that the great nation of Russia * * * are importing bumble bees to fertilize the red clover;" while there was scarcely any necessity of correcting it at the time it was made, I may as well state, since it is repeated, that New Zealand and Australia, where the bumble bee is not indigenous, are the countries that have been considering the question of importing the insect, in order that they may no longer be obliged to import all their red clover seed. Russia has no need of such action. C. V. RILEY.

St. Louis, Mo.

For the American Bee Journal.

Chips from Sweet Home.

It will be remembered by the readers of the AMERICAN BEE JOURNAL, that we were among those who lost heavily in bees. It is now Jan. 22nd and there is no sign of the disease. We think the disease was caused by confinement on poor honey. Last fall we fed two hives or rather put in some combs we had saved from those that had died, and as yet I see no difference. Our bees (100 hives) are in the west half of the cellar, a partition running through the centre, we filled the two opposite window holes with straw, we can raise the windows and have a current of air without admitting any light, but find the bees quieter with the least circulation. The only ventilatation I give is an opening in the base of chimney which carries off the damp air. One morning I heard quite a roaring among the bees and upon examination I found the noise all proceeded from one hive, with my knife I raised the honey board a little and all was quiet. The theomometer has ranged from 40 to 45 deg.

B. Miller, of Lee Co., Ill., in answer to some questions from me on wintering bees, said: "I never lost but two hives in wintering. I winter in the cellar, never allow the thermometer to go below 35 deg., never disturb them, give plenty of ventilation both in the hive and in the cellar, leave the whole front of the hive open and push the honey board forward so as to leave a half inch crack at the back, extract 2 or 3 frames and put the empty combs in the centre, put in cellar the last of October and take out the last of March."

SELLING SLUNG HONEY.

We can make more money in selling slung honey at 15 cents than box honey at 25 cents. But there is the trouble *to sell.* Seeing that others were successful in selling it in small jars nicely labeled that "they went off like hot cakes," we were induced to put up over 500 lbs. in jelly jars, nicely labeled, and started out, passed through the town where "slung honey in jars went off like hot cakes," but the grocerymen told me it would not sell although they had them piled up right in view; and from a man they knew, I sold some of my jars and left most of it on commission, but they write me: "Have tried to sell your honey but can't. And now I have offered to exchange 332 lbs. for 100 grape vines, and return the jars. I sell a good deal of slung honey each year, nearly all in the county, and prefer it

to be candied, I sell some for money and a consideuable for trade, *e. g.*, I paid $4 and the balance in slung honey for a bureau. 100 lbs. for a 2 year old Durham heifer, 275 lbs. for carpenter work, some more to mason, some for corn. A neighbor told me that he was putting up a variety of Illinois fruit for some friends in Indiana, I suggested putting in some of our honey, he got 21 lbs., and brought a neighbor who got 6 lbs., he thought his friends might want a barrel of honey; my blacksmith's bill is paid in honey, &c., &c. My neighbors prefer the slung honey because it is cheaper and healthier, and no wax in it. Many persons cannot eat honey because it gives them colic. I have yet one of such to find who cannot eat slung honey when candied solid. Last fall neighbor M. told me he wanted some honey and would take more but his wife could not eat it, the last time she tasted it he went for the doctor. When he came for the honey he brought her along and she ate liberally of it and it had no bad effects.

We would advise all bee-keepers to make home sale of slung honey, and if city style will have comb honey make them pay for it. D. D. PALMER.

Eliza, Mercer Co., Ill.

For the American Bee Journal.

An Address

DELIVERED BEFORE THE SOUTHWESTERN KENTUCKY BEE-KEEPERS' SOCIETY BY DR. N. P. ALLEN, THE PRESIDENT OF THE SOCIETY, ON DEC. 30, 1874.

The objects of this Association are to advance the science of bee culture, by associating in one body those who are interested in bee-keeping.

The importance of association when there are common objects to carry out will be readily conceeded.

The value of consultation about matters in which all are interested, and especially where there is room for difference of opinion cannot be over-rated.

We have our Agricultural Societies and our Granges to look after the great foundational industries of the country; and conventions and meetings are held all over the land in order to carry out the ends for which they were organized.

No sensible individual undertakes to carry out solitary and alone the ends he is aiming to accomplish when there are others equally anxious to succeed in the same direction, with whom he can consult and cooperate. There is no class of men whose interests calls louder for consultation and association than bee-keepers.

When we take into consideration the fact that bee culture is both a science and an art; that but few in our land have any knowledge of the great discoveries or inventions that have been made; that the mass of bee owners are ignorant of even the simplest operations of the apiary. It behoves us to do all we can to dispel the cloud of ignorance which over-hangs them, and so far as we can to impart that knowledge by which they may prosecute bee-culture successfully.

I regard bee-keeping in this country in its infancy. I feel sure that the great foundational principles of success have been attained with the movable frame hive, the honey extractor, and the Italian bees. There is nothing wanting but a thorough knowledge of bee culture and a determination to succeed. There are a large number of determined men in the northern States that are producing honey by the ton, they are realizing large profits from the labor of honey bee, many of them are growing rich, and why can we not as well as them, when our gardens, fields, and forests are strewn with flowees rich with honey?

Bee-keeping has taken a high stand among the productive industries of the world, and many are reaping a rich reward in its pursuit.

Honey as food for man was of sufficient importance to be recorded in the sacred Scriptures: "Sampson enjoyed a rich feast of honey taken from the carcass of a lion." John the Baptist while he was preparing the way for the coming Savior, dined upon locusts and wild honey.

It is absolutely certain if man is to have honey the bee must collect and store it for him, and it is none the less certain that the proposition of honey gathered and made available for human use is very small compared with what might be got if there were bees enough to gather it.

The question, will it pay? is the question that interests most persons, in the various pursuits of man. I answer that bee-keeping, like all other pursuits, has its successes and reverses, but I am fully satisfied that it is no more subject to failure and disappointment than any others.

I am aware that many who have bees fail to realize any profit from them, but that is no reason why they should not. If they were to give their farm stock no more attention and care than they give their bees they would prove even more worthless than their bees.

There is no good reason why our land should not flow with milk and honey. We could, if we would turn our attention to it, procuce tons where we now produce pounds. It does not take long to learn to swarm bees artificially, and thereby insure increase of stocks, nor to Italianize our black bees and cultivate a superior race of bees that are more prolific and better honey gatherers. We can soon learn to extract the fluid honey and return the comb to be filled again, in fact all the operations of the apiary can be learned by any one who will give it their undivided attention, for there are no secrets in bee-keeping. But in order to accomplish this we must use exclusively the movable frame hive. We cannot succeed to but a limited extent with the box hive. Then I would earnestly advise all who are interested in bee-keeping, either for pleasure or for profit, to get the movable frame hive, and transfer your bees into it. Procure a honey extractor and thereby increase your honey to an unlimited extent. Take the publications on bee culture, I would recommend the AMERICAN BEE JOURNAL, *Moon's Bee World*, and *Gleanings in Bee Culture*, as invaluable to those seeking knowledge in the management of bees.

It is said that he who causes two blades of grass to grow where but one grew before, is a benefactor of his race; and it can be no less true that he who causes two pounds of honey to be made where but one was made before, is a benefactor, and a blessing to

mankind. Then let us strive to obtain a high stand in our favorite pursuit by storing our minds with that knowledge that will enable us to overcome all difficulties that we may have to encounter and to surmount every obstacle in the pathway of success.

For the American Bee Journal.

How to Save a Queenless Stock.

On a bright warm day in February, I examined a number of my hives, to see if they had sufficient stores and if the queen was laying. In some hives, I found more, and some, less, of sealed brood, all except one had eggs and larvæ. One hive on examination proved to be queenless. There was plenty of bees and stores enough to last until the honey harvest. I gave them a card of comb from one of my strongest stocks with sealed brood, larvæ and eggs in it. I closed the hive up and did not open it again until April 11th, as the weather was cool and not suitable to open the hive. I found that they had made three queen cells; the cells were open but no queen cells could be found in the hive. I gave them another card of brood, and on May 2nd, a beautiful day I saw the queen as she returned from her bridal tour with unmistakable evidence of her impregnation; and I gave them another card of brood in a few days. She began laying and soon filled the hive with bees. The queen was pure Italian and was impregnated by a pure drone, and that hive today is as valuable as any hive I have. I winter on summer stands altogether. If we would raise early queens, we should hardly fail to get them purely impregnated as the Italian drones are earlier than the black drones.

N. P. ALLEN.

Smith's Grove, Ky.

For the American Bee Journal.

Candied Honey—Empty Comb.

I was sumwhat surprised in reading Dadant's article under the above caption in the Feb. No. of the JOURNAL. He says that to want a means of preventing honey from candying is the same as to encourage a fraud. Now my extracted honey had always candied until the present winter. None that I put up in one and two lb. glass cans has as yet candied and we have had as cold weather as we ever had for twenty-five or thirty years.

Last spring I read an article in the JOURNAL from C. Muth, on "how to prevent honey from candying. His directions were to let it set in a cold and dark room for a day or two after extracting, with no top on the vessel it was in and skim off carefully then cover. This was to give it time to work and send all the impurities to the top. I treated my honey in this way and no other, and if it is not pure, I ask Dadant to say in what has rendered it impure. It was fully sealed when extracted and very thick honey, but as it has not candied yet; it is according to Dadant impure. I never thought of honey being impure that did not candy or I would never wished to know how to prevent its doing so. Every one who has bought this honey pronounces it the very best.

I like candied honey myself better than I do that that does not candy, but we read in the JOURNAL that candied honey did not sell so well as the liquid; that it looks like a can of lard. Dadant's reasoning is good if he can explain why mine and Muth's honey in glass jars didn't candy. I did not, nor would not, mix a single ingredient with honey. Also it has been in as cold a place as the rest of the honey that candied every other winter.

It is plain that my honey this winter has not come up to Dadant's test of purity; I have given the simple and plain facts how it was treated and put up in the sealed cans. It now remains for Dadant to say why it is not pure, if he can.

EMPTY COMB.

I see in several Bee Journals and also by my correspondents an enquiry for empty comb. This is a move in the right direction, for very few know the real value of such combs. Hundreds of pounds of nice worker comb is yearly melted into wax, by those who would have gladly sold it for the price of bees-wax. But we had better watch and be careful from where it came or we may bring disease among our bees by means of it. I have never yet experienced the bee-disease, and would willingly give every stand of bees in my Apiary to prevent it. I believe that foul brood and dysentery are diseases among bees, but I very much doubt whether there are any other. I do not believe there is such a thing as Bee Cholera.

Lowell, Ky. R. M. ARGO.

For the American Bee Journal.

Numbering Hives.

I have received much information from bee books, and as far as I am able, will do my share in giving information to promote the cause. There is one particular branch that ought to be known to all, especially those thot remove their bees from their summer stands, and that is numbering. It is said by one standard writer that it is all a whim, but if he has ever read the Pilgrim's Progress, where he often stepped out of the straight and narrow path, he will take warning and not use unkind words, because others do not agree with him. I know whereof I speak for I have had two cases this spring. Last fall I had three Eureka hives, and left them on their summer stands; two were near together and one a rod off, so I removed it near the other two, and in February there was a warm day and they all had a fly, and the bees from many of them went back to their former home and if there had been another hive of bees there, they would have tried to go in, then it would be said they were robbing. At the same time I took some bees out of the cellar, and by mistake moved two hives three rods from their former stand, and on coming out many of them went back to their former stand, and had there been other hives there, they would have tried to go in, and a stranger would have said "your bees are robbing." Now let the unbelievers try the experiment place some hives on their former stands and misplace others and see which are robbing.

Marcellus, N. Y. A. WILSON.

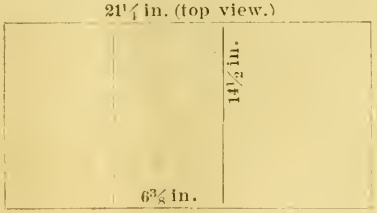
Is it a fact that first swarms issue in the forenoon, and second in the afternoon?

Getting Honey in Frames.

A PAPER READ BEFORE THE MICHIGAN BEE-KEEPERS' ASSOCIATION, DECEMBER 16TH AND 17TH, 1874.

I will here give a description of the small frame for surplus, as we use them here. First, the frame that holds the small frames we call a case. It is similar in construction to the clamp that holds the boxes but requires more accuracy in construction, more lumber, and some glass.

The Langstroth hive we use measures on the outside 21¼ inches in length by 16 inches in width, and I will give the dimensions to fit that size, as I think I can convey the idea more accurately in that way. The size can be varied, however, to fit any hive.



Take ⅞ inch thick stuff by 6¼ wide, and cut two pieces (ends) 14½ inches long, rabbit the upper inside corner ¼ inch only ½ inch deep, to receive the ends of frames; cut two pieces (middle divisions) 14½ inches long, 5¾ inches wide, ⅞ inch plump thick; cut four pieces, (sides) ⅞ inch stuff, 2 inches wide by 21¼ long. Now, nail the lower side piece on one end (with thin sixes) flush with the bottom, then put in a form, 6⅜ inches wide and press the division against the form and nail, keeping the bottoms all flush; in the meantime put on the upper side piece, and place a movable strip of wood, gauged to 2¼ inches wide, between the side pieces while nailing, so as to leave the space for the glass always the same width. Then cut the glass with a gauge and it will always fit, press the glass down against the ends of the divisions and tack a light wooden stop against it, and your case is ready for the frames.

The top side-piece should be flush with the top of end-pieces, and the top of divisions should be ½ inch lower and on a plane with the rabbit in end-pieces. The stuff should be cut with circular saw and gauge, as it is cheaper and more accurate. There is a space of ¼ inch between the honey board and top of small frames, and the same space between frames when tiered up.

The case is to contain 24 small frames. The end pieces of the frames are tight fitting to each other and also to the case. To make the ends, get a plank planed at the mill on both sides, 1⅜ inches thick, a little plump, so that when you put eight end-pieces side by side they will measure across them 14⅜ inches, and that will leave ⅛ inch side shake, for convenience in getting them out when filled; eight frames fill a space across the hive, (the frames run the same way as in the hive.) Now cut the plank into pieces 4 or 5 feet long, for convenience in handling, and set the gauge to a circular rip-saw ¼ inch from the saw, and rip the stuff off the edge of the plank ¼ × 1⅜ inches; then cut them 5¾ inches long and you have your small frame ends.

To make tops and bottoms have a plank planed 1⅛ inches thick, and rip as before; cut the tops 6⅜ inches long, and bottoms 5¾ long. The saw should be sharp and trued to cut smooth. Nail on the tops of frames in a form, so they will just slip in the case without touching; ⅛ inch end shake is sufficient. Nail through the top into the end and through the end into the bottom. Leave projections on each end of top-bar alike and nail the tops and bottoms in the middle of ends, leaving space on each side alike. When the frames are all put in there is a space ¼ inch wide between the bottoms of every two frames and the same between the tops, making a splendid entrance for the bees, both before and after tiering up.

We think every working bee can make two or three trips per day more than she can in boxes, if the field is near, making one-third difference in the amount of surplus. Use ½-inch finishing nails, six to the frame, four in the top and two in the bottom. Stick a nice white piece of drone comb 2 × 3 inches in the the top of each frame, and when the honey yield commences take off the honey-board and put on a case of frames, and put a quilt on top of the case or, if the cover is high enough, the honey-board can be put on top of the case instead. The after management is about the same as with boxes, with these exceptions.

It will not be necessary to take away as much brood as with boxes, to prevent swarming, as the supers are better ventilated and the clusters are larger, being divided into but 3 apartments, while with boxes they are divided into twelve; and in the second place small frames can be tiered up sooner than boxes, as the entrance and ventilation to the upper tier is as good as it is to the lower tier.

If the yield of honey is good they can be tiered up as soon as the first case is filled with comb and honey, and before

they begin to seal much. The same plan should be adopted as with boxes to get the three rows started all together. If they work the strongest at one side or one end, reverse the case and get them to distribute their work, as it is so much easier to tier up a whole case than it is one or two rows. However, some bees will start one or two rows and leave the others severely alone. In that case, as soon as the one or two rows of frames are ready to tier up you will take the case off and set it up on end on a bench or chair, and take a thin table knife and run it from the bottom between the frames and the case, on all sides of the empty row, in order to loosen the propolis; then push the row all out together and put them in the tier up case and fill it out with new frames, then put it in the hive and put the partly filled case on top; then fold up some cloth and lay it down in the empty space, so the bees cannot occupy it, and if they have a good lot of food and the yield is good they will probably start the next case more even. We frequently get the three tier under before the first one is ready to come off.

These cases will weigh when filled from 50 to 55 lbs. each, after deducting the weight of the case. The frames sell with the honey and will weigh from one to two ounces each.

I see by the journals some advise taking out a frame as soon as it is finished and replacing by an empty one. It seems to me if they had ever made a ton of honey in that way they would think there should be some easier way to do it, as I can certainly tier up a dozen full cases while I could overhaul one set. That might be a good plan if the bees were allowed to swarm. There are one or two objections urged by beekeepers, when first looking them over. One is, it seems to them as if it was more work than with boxes; but our beekeepers here, after having a few years' experience in the make and use of them, say they think a man can run 100 stocks with frames with about the same labor that it takes to run 50 stocks with boxes. Another objection is, that as the bees cannot get in between the case and the frames, they say the moth worms will get in there, but having made a good deal of honey in that way, and having seen several tons in different seasons made in this county, I have yet to see the first worm in that place. Of course they are put on none but strong stocks. One wing of each queen is clipped and all swarms returned and managed the same as with box honey. As a result of all this, I advise all to get their supers made in the winter. Make all small frames and boxes that will be needed, put in the glass, stick in the combs, get them all ready to set in the hive, and set away in a safe place till wanted. Make at least super capacity enough to hold 100 lbs. for each full stock in winter quarters. If you have twenty such stocks make ten new hives—and no more—and make it your business to see to it, that those bees shall fill those supers, and on no account draw more brood than is sufficient to build up ten stocks for the season. If you have the supers all ready it will be half the battle towards getting them filled, as I believe a great deal of box honey is lost by not having the supers ready in season. Get the supers on several days before the yield of surplus commences. If the stocks are strong in bees, (crowded) it will do no harm to have them on a week or more before they use them. Better not put them on at all than to put them on a week late, as it will probably be labor in vain. I suppose I should qualify the amount of super room to suit the location. If the location is such that there is little or no surplus from locust trees, white and alsike clover, raspberry, and the tulip tree, and there is an abundance of basswood, the whole crop, nearly, coming from the latter source, and all delivered within a few days, my advice would be to use no surplus for comb honey, or if they were used they should be used over a two-story hive and the combs extracted from the upper story of the hive, as the time would be too short to make the wax comb necessary to hold the whole gathering, or daily yield, but if the yield of surplus commences, as with us, on locust, and runs down through the list, getting a slight sprinkling of basswood, and after a few days is followed with buckwheat, we think we can get nearly as many pounds of comb honey as we can extract from ten brood combs. My theory is that the young bees elaborate the wax as fast as needed and use but little more honey than they would to perfect the growth of their wings and other organs.

You will see that as soon as the bees are out of the small frames they are ready to ship. As the case is as cheap as any crate you would make to carry small frames and show the honey. The honey is made in the case, is waxed fast and will ship safely to any distance. We generally place a sheet of wrapping paper over the top of each case and fix them so they will not slip off from one another where they are piled three or four tiers high.

J. P. Moore.

Binghamton, N. Y.

For the American Bee Journal.

"Eccentric."

Didn't friend "Argo" go for us right lively, though, in the February number of the AMERICAN BEE JOURNAL? Notwithstanding his vigorous assault we "still live," and if nothing serious occurs to frustrate our intentions or mar the even tenor of our way we shall continue to retain the name of "Eccentric?" Are we timid or cowardly? Methinks friend "Argo" would hardly have said that had he known us personally. But we had a good, hearty laugh when we had concluded the perusal of "Argo's" article, to think that he should skip clear over "us little folks" and read us last of all. Yet we could not help thinking of a private letter in Mr. A.'s own handwriting, stating that he valued our writings and prized them very highly. Ah! friend A., did you but know that "Eccentric" has appeared in these pages often, (over his own name, too,) very often before, had often had right lively scuffles with "Novice," "Gallup" and the other "big boys" who used to box one another's ears so soundly in these columns, you would never have called us cowardly. Many thanks, however, for saying our "article was good."

We begin to receive reports again of the destroying work of that fell "bee disease," and the indications are that large numbers of our little pets will, ere the return of April showers and balmy spring, "go where the woodbine twineth." Are these things always to continue to baffle our endeavors and thwart our designs? Is *successful* apiculture to forever remain a thing of the past only, to tantalize us with the sweet remembrance of those halcyon days of the long ago? It may be so, but we are too hopeful yet to indulge the thought. Even now, through the dark and somber clouds which veil the horizon of our vision do we catch a glimpse of the happy, prosperous future that awaits us if we with patience but persevere yet a little while. Success, complete and triumphant, can but be the reward of patient waiting, thorough investigation and tireless industry. It may not be out of place to state, in connection with the foregoing, that we are anxiously awaiting the arrival of a copy of "Money in the Apiary," which we see is advertised in another column of the good, old AMERICAN BEE JOURNAL. We are assured by the author that it contains instructions for wintering which will, if put in practice, enable us to bid defiance to that "bee disease" which has produced such fatal results during the reign of old Boreas and Jack Frost. Knowing Mr. Burch has no patent hive to sell, and that he has been a successful apiculturist, we have indulged the hope that his investigations may give us the key to success, and if this be the case we say "long may he wave."

We are glad to note that our bee conventions are making it lively for those dealers in a conglomeration of honey and glucose. We sincerely trust that they may persevere in the good work until these dealers shall abandon "the ways that are dark and the tricks that are vain" and engage in some more legitimate occupation.

When we shall have attained complete success in wintering our "little pets," and shall have secured a sure and reliable market for our honey, (which we can do by having it stored in small glass boxes,) then may we hope to make apiculture a pursuit at once "sure, safe and highly remunerative." That this may be fully realized in the near future is the earnest wish of "ECCENTRIC."

For the American Bee Journal.

Swarmers and Non-Swarmers.

In the issue of the A. B. J. for February, I observe a communication from N. Cameron. He tells us he has no faith in the non-swarming hive, "for we have known them to swarm when the hive was not half full of comb." Mr. Quinby tells us he took four hives of bees full of comb and placed each upon another empty hive; they each neglected to occupy the added room and sent out a swarm. Probably any bee in the exercise of common sense would have done the same. Bees will issue from any hive from want of acceptable room, from excessive heat, from the presence of enemies, or from lack of food.

Indeed in the home apiary it would be less objectionable to have enough swarms to sustain the working forces for the field.

My experience has been, that with acceptable room for the whole colony the whole season, secured from excessive heat from the sun, or want of ventilation, they will not swarm. A few facts, resulting from the use of the non-swarmer hive.

1. An apiary in non-swarmer hives will secure four times the amount of surplus, from the same field that would be secured by an apiary of swarmer hives, in the same field.

2. An apiary in swarmer hives will consume from two to four times the amount of honey gathered from their field, that would be consumed by the apiary of non-swarmers.

3. The surplus honey gathered by the swarmers costs from two to four times as

much by the pound as that gathered by the non-swarmers.

4. The care and trouble of an apiary of swarmers, is four times that of an apiary of non-swarmers.

5. An apiary of non-swarmers, is more durable than swarmers, non-swarmers often remaining efficient, thirty years and more, and swarmers rarely enduring one fourth of that time.

6. Swarmers reach periods of destruction, and waste in from five to ten years of almost the whole apiary, while non-swarmers may be efficient for a whole generation.

7. Non-swarmers give from one-fourth to three-fourths of the product of the field in surplus; the swarmer gives but from one-thirtieth to one-fourth of the product.

I have here presented a few statements that I believe to be a fair comparison of the operation of bees in the two classes of hives, swarmers and non-swarmers. If any of my friends have doubts of the correctness of either of the statements made, and wish for my reasons for adopting these views, I can give my reasons, or some of the reasons that have led me to adopt them.

I am aware that longer seasons for gathering honey at the south, and the shorter winter season for consumption of gathered stores may effect this question. But how, or how much, I am poorly prepared to judge. JASPER HAZEN.

Woodstock, Vt.

Report from the Pacific Slope.

I accidentally got hold of the November number of the AMERICAN BEE JOURNAL, and became quite interested in its perusal. Although I am but a novice in bee-keeping, yet I keep my eyes open, to see what others are doing in that line. I suppose that San Deigo county is as good a honey producing country as there is on the American continent, if not in the world, and that I am in the center of the best portion of the county. I notice in an article copied from the S. D. *World*, that the honey crop of this county for 1873, was 119,000 lbs., I know also, that the crop for 1874 was 475,000 lbs., an increase of 356,000 lbs. I know also that since that honey was produced, there has been a large importation of bees into the county from the northern part of this state. On the 15th day of March 1874, Mr. John Watson got the first load of bees here out of the 103 stands he started with from Sacramento. By the time he got them all here and straightened out ready for work, they were reduced by being smothered, to 75 colonies. He sold six and a half tons of honey in comb from them, and has now 160 swarms. He sold his honey at 20 cts. per lb.

One month earlier than that, or in Feb. 1874, Dr. Marshall started with 53 swarms of Italian bees, (Mr. W's were the black.) He increased to 203, and sold over $1200 worth of honey at from 14@16½cts. per lb here at home, and probably has from one to one and a half tons of honey now in the tops of his Harbison hives, as he was unable to procure section boxes for them to store it in.

Last spring Messrs Trask & Thompson, started with 19 swarms which they had got from the woods. They sold over $1,000 worth of honey, and a short time ago sold their apiary, numbering 110 colonies, and their bee-ranch for $2,000 more, to a Mr. Hicks from Chicago.

Mr. Crannell living three miles from me had, last spring, 40 swarms of black bees. He sold six tons of strained honey and has now 150 swarms of black bees. At his place, at the mouth of the San Bernardo river he had one swarm of Italian bees. From that one hive he saved 24 colonies. How many got away he knows not, but several of his neighbors got swarms of Italian bees that were astray, and as there were no others nearer than 10 or 12 miles, they think they must have come from his.

C. Paine, at Paway, had last spring three swarms in King hives; from the three he got 24 swarms, total 27.

I had one in the same kind of hive, my one increased to nine, others have done equally well.

Now with the same ratio of increase of the honey product of 1874 over 1873, 1875 ought to produce 1,421,000 lbs; but the probabilities are that it will exceed that by nearly one million lbs. Why? Because large numbers of people who only had a few colonies last year and sold no honey, are gathering up all they can get from the woods and rocks, and are going to make it a business to produce honey for market.

Two planing mills have been kept constantly running for months at their utmost capacity, cutting out Harbison and and Langstroth hive stuff; lumber for thousands of hives has been hauled out into the country without being cut, to be made up at home, and large quantities have been cut and shipped down from Sacramento and San Francisco.

Some of the statements made above may seem marvelous to your readers, but that they are all facts can be proven beyond cavil, by affidavits from all of the

above named persons, and numerous others here who are knowing to the facts.

From what I have seen of the workings of the different hives here, I prefer the Langstroth with some modifications which we put on here. For instance; We find that three section boxes do not give room enough for the bees to store honey in as fast as a strong swarm can gather it, so we put on six by deepening the lays and placing them two courses high.

Of honey producing flowers, we have the Manzanita (little apple) for the past month in full bloom, a sort of wild lilac just in bloom now, and a purple lilac also wild, just coming into blossom. By the time these are gone, the valleys will be covered with the blossoms of the Alfilari and burr clover, mixed with a small sort of fleur de luce on the plains, and willow and oak blossoms among the timber. We also have a kind of mountain sage very similar to the garden sage of your locality which comes on earlier than the white sage, and is almost if not equally as good as the white as a honey producer, after which comes the white sage, followed by the Sumac Fusica, and buckwheat, greasewood, with vast quantities of other flowers of which I do not know the names. Of course they work on the corn tops, fruit, pumpkin and melon blossoms. In fact there is an endless succession of flowers from Jan. 1st to Jan 1st again. Not one day in the year but that I could show you flowers if you were here.

W. J. WHITNEY.

Bernardo, San Diego Co., Cal.

For the American Bee Journal.

How I Built a Bee-House.

I selected a dry piece of ground where no water would stand, dug out a place 18x30, twenty inches deep, dug post-holes a foot deeper than the bottom of cellar, put in posts about six feet apart all around, reaching twenty inches above the top of the ground, and put sills on top of the posts; size of sill 6x16. I now had my foundation laid 18x30 feet. I put joist in 2x12 and 18 feet long, thus leaving a cellar underneath about forty inches deep. I now stud with 2x4 scantling, ten feet long, on the outside of the sill and inside also, nailing joist 1½x12 on top next to the top plate. I then sheet with inch lumber outside and inside, nailing at the same time 1x3 inch strips three feet long every two feet from floor to ceiling, from outside to inside stud, letting them project twenty inches into the room, forming supports for shelves all around the inside. Three rows of strips just make fair space for hives, it being just eight feet between ceilings. I now put a blind floor in both sets of joists, fill between the lower joists with sawdust, then lay floor on top, fill the outside wall, which has sixteen inches of space with dry sawdust, also about fifteen inches on top. Roof it the same as any other building, and put in two windows and one door. I cut a board the size of the windows and put it in when I wish to darken or keep out frost, also double doors. I built a chimney in the end between the door and and window, letting it come down into the room. It forms a ventilator, and I use a stove in the spring to warm up weak stocks, after the bees are moved out. I always keep several thicknesses of cotton over the chimney-hole, to keep in heat, and allow the damp to escape. I bank the cellar all around the building so that no frost gets in, and have an opening or hatchway two feet square through the lower floor to let the foul air or poisonous gas settle into the cellar.

I have wintered three years in this house and never had any losses in wintering. It is no trouble to winter in it when the thermometer goes 25° below zero and continues cold a long time. The inside temperature never varies more than one or two degrees, standing at about 40° or 42°. I frequently go in and can scarcely hear a sound from one hundred pure Italian swarms, they are so quiet.

I weigh every swarm when I put them in in the fall, and also when putting them out in the spring, and they consumed in the winter of 1872-3 six pounds and two ounces of honey per hive; in 1873-4 five pounds and three ounces of honey per hive, or about one pound per month. Thus far this year they have been doing well.

Now, a word about extractors. I see by your February number that some prefer the Peabody, or a revolving can machine, to one of the Root style. I have used a Peabody that cost me about $20, counting express charges, &c., for years. Last season I got one of Root's machines and it ran so easy that the little boys in the village would come and help extract for amusement. One day a small boy extracted over two barrels of honey. I took out and put in the combs for him. I want no more revolving can machines. If the Root machine is not strong enough to suit you, put a steel wire inside the tin braces and put in a ⅜-inch steel rod or mandrel, as you call it, and you can sling out any honey that can be removed.

I am making and selling at cost extractors of the Root style, only I strengthen some weak places. I could use a Root

machine for years, but I find that some not accustomed to extracting require a stronger inside frame when extracting very heavy combs. In conclusion allow me to say that I will furnish bee-hives containing twelve frames of improved style, division-board, bee-feeder, (latest,) entrance blocks and everything complete, painted three coats, ready to put in your bees, for $1.50 each. I will do this in order to encourage bee-keeping. There is no patent on it that you will be charged for and those who wish to do so can get one for a sample and make their own. I also will give any person one hive free who will get five new subscribers here in Canada for the AMERICAN BEE JOURNAL for 1875, they sending me the editor's certificate for the same, those already sent in not to count. D. A. JONES.

Tecumseth, Ontario, Canada.

For the American Bee Journal.

Kentucky Bee-Keepers' Meeting.

At a meeting of the bee-keepers of Southern Kentucky, at the residence of Dr. N. P. Allen, near Smith's Grove Station, Warren county, Dec. 30, 1874, Prof. C. M. Wheeler was called to the chair and R. A. Alexander appointed Secretary *pro tem.*

Prof. Wheeler stated that the object of the meeting was to organize a Bee-Keepers' Society for the promotion of bee culture.

The following persons gave their names as members of this society:

Rowlet's Station.—Robert S. Munford.

Smith's Grove.—J. H. Wallace, H. W. Sanders, Dr. N. P. Allen, David Kirby, Wm. G. Allen, J. T. Allen, L. P. Smith, Mrs. M. J. Wolf, R. A. Alexander, Mrs. Kate E. Allen, Mrs. Amanda Allen, Mrs. Lizzie Alexander, J. C. Ellis, Charlie N. Allen, Mrs. Julia Wheeler, Mrs. Mollie Allen, Mrs. Mattie Sanders.

Caverna —Elmore Winn.

Bowling Green.—Eli Howel.

Glasgow Junction.—P. P. Colier, Prof. C. M. Wheeler, David Lock.

Edgefield, Tenn.—H. T. Arnold.

The society then proceeded to elect officers for the ensuing year, as follows: Dr. N. P. Allen, President; H. W. Sanders, Secretary; R. A. Alexander, Assistant Secretary; W. W. Wright, Treasurer. The following Vice Presidents were elected: L. P. Smith, Warren county; S. S. Dunall, Barren county; James Reed, Allen county; R. S. Mumford, Hart county; James Johnson, Todd county; Moses Gath, Butler county; J. H. Ritchy, Cumberland county, James Harlin, Monroe county; J. F. Ray, Metcalfe county; Thos. Sydnor, Logan county; James Richards, Hardin county.

The President-elect on taking the chair thanked the Society for the honor conferred on him.

The following committees were then appointed:

Committee on constitution and by-laws —Prof. C. M. Wheeler, L. P. Smith, R. A. Alexander.

Committee on questions for discussion at evening session—R. S. Mumford, P. P. Colier, W. W. Wright.

While the committees were out the President delivered an able and appropriate address on bee-keeping.

The committee on constitution and by-laws presented their report which was accepted and the committee discharged.

The Secretary read the constitution and by-laws and on motion they were unanimously adopted.

On motion the wife of each member was declared entitled to membership.

The Society then adjourned, to meet at 1 o'clock P. M.

Afternoon Session.

A communication was received by the President from Mr. Frank Benton, Edgfield Junction, Tenn., on the advancement of bee-culture. The communication was read by the Secretary and on motion the thanks of the Society were tendered Mr. Benton with a request for its publication. Mr. Benton was on motion made an honorary member of the Society.

The President stated that he had received a communication from Mr. James H. Ritchy, of Burksville, Ky., regretting his inability to attend this meeting. Mr. Ritchy stated that his bees continued to gather honey rapidly up to October 10th.

The committee on questions for debate presented the following which were accepted:

1st. What are the advantages of the moveable frame hive over the old box hive?

2d. Is the Italian bee superior to the native or black bee?

3d. How can we manage bees so as to secure the greatest yield of honey?

4th. Is honey, taken before it is capped over by the bees, pure honey?

5th. Can bees be tamed by handling, or can they be educated so as to know their owner?

The first question was then taken up. Mr. Alexander said that the moveable frame hive possessed many advantages over the old box hive. First, we can ascertain at any time the exact condition of

our bees. If they are weak we can by exchanging a card of empty comb from the weak colony for a card of comb with capped brood in it from a strong colony strengthen them in winter. Or if queenless, we can furnish a queen, or give them eggs from which they can raise a queen. Second, if the moths are about to destroy our bees can remove every frame—comb, bees and all—from the hive and destroy the last moth; and if we find them short of stores we can feed them and give them a card of sealed honey from a rich hive, and thereby save our bees from death. We can also Italianize our bees and cultivate a much better bee for honey gathering. It gives us the advantages of the honey extractor, enabling us to extract the honey and return the comb to be filled again, and we can realize a much larger yield of surplus honey.

Mr. Mumford said the moveable frame hive also enabled us to clean our hives of all accumulations of wax and other matter, by removing the combs and bees into a clean hive, and we could make any repairs the hive might need. We could divide our bees and insure increase of stocks without danger of loss by swarms decamping, as was often the case with box hives; and that we could improve our bees in size, and in many respects make them more valuable.

The President said that during rich yields of honey the bees would store it in the brood nest, and by the use of the movable frame we could extract it and make our colonies much stronger in numbers; and that we could insert empty cards of comb in the center of broods, enlarging the brood nest and raising double the amount of bees that would be raised in the box hive. That with the frame hive we had as much control of our bees as we have of our domestic animals.

The second question was then taken up. Mr. Mumford said that the Italian bee was larger, hardier and more prolific than the black bee, and a much better honey gatherer. He had seen them gathering honey from the red clover and from the sapling clover, and that they would gathey honey when the black bees were idle; would go farther for it, would defend themselves against the moth better, and that they were more pleasant to handle. He said he had a large gray bee that could gather honey from red clover.

The President said he had never seen the Italian bee gather honey from the red clover except when the blossom was short from the effects of drouth.

Mr. Smith asked what flowers the Italian bees gathered honey from that black bees did not?

Mr. Mumford—"From the red clover and various other flowers."

Mr. Smith—"I understood the gentleman to say he had a large black bee that gathered honey from red clover."

Mr. Mumford—"I said I had a large gray bee that gathered honey from red clover. It is an improved variety of the common bee, as lgrge as the Italian."

Mr. Smith said he had never seen any bee but the bumble bee gathering honey from the red clover, unless he mistook the Italian for the bumble bee. [Laughter.]

Mr. Alexander said in his experience with the Italian bee they were much superior to the black bee as honey gatherers.

The President said that the Italian bee was aeknowledged by the great mass of apiarians to be much superior to the black bee and in no respect inferior.

The third question was then taken up. The President said by feeding early and getting the bees strong by the time the honey harvest opened; then give them empty comb in top of hive and as fast as it is filled and before it is capped over throw it out with the extractor. By that management he had the past season taken from one hive 423¾ pounds of honey.

The fourth question then came up for discussion. Mr. Mumford thought it was not perfect honey until capped over by the bees.

Prof. Wheeler asked if the fact that honey was taken before it was capped was not the cause of the difference in the flavor of honey.

Mr. W. G. Allen said he got some honey from the President of this Society last season that had been extracted before it was capped over. It was so thin he feared it would sour; he put it in his cellar and now it was candied so solid that he could slice it like butter, and richer, better honey he never saw.

The President said the difference in color and flavor of honey was on account of the different sources from which it was gathered; that honey taken before it is capped over by the bees is pure honey, but was not thick and rich like capped honey until all the moisture it contained was evaporated, which could be done by heating it or allowing the vessels containing it to remain open, so that moisture could escape.

The fifth question was then taken up. Mr. Arnold said he found his bees tamed by handling; that when he visited them often they seemed less spiteful.

The President said there was more in our getting used to the bees than in their getting used to us.

The Southern Kentucky Bee-Keepers' Society then adjourned, to meet at the residence of Mr. B. A. Alexander, near Smith's Grove, Warren county, on the third Wednesday in May.

W. H. SANDERS, Sec.

Notes AND Queries

I found one of my best swarms dead this morning; it was smothered or frozen. It was a box hive and contained about 75 lbs. of honey; the combs were like cakes of ice. The weather is very cold and I fear I shall loose more of them. The JOURNALS came to hand and I find them very interesting.

Denver, Ind. AARON LEWIS.

It is strange that bee-keepers are so long in understanding that frozen honey is no better ice for bees to winter on, than frozen water would be. We have seen many colonies in just the state your bees were in —hives full of sealed honey with no space empty for the bees to cluster. The very first cold weather, all the bees that come in contact with the sealed honey die, and thus with every cold day the cluster is diminished until there are not bees enough to keep up any warmth. Even when protected, bees in this situation are not safe from freezing. We repeat what we have often said: "More bees die every winter in Iowa from too much honey, than from the want of it.

I have seen it stated that the Italian bees protect their combs from the moth much better than the common bees do; and that when there is no bee disease prevailing the Italian workers are much longer lived than black ones. Please inform me whether these two points in their favor are generally conceded by those who have tried them.

ALLEN WEATHERBY.

We are sure that no one who has kept both Italians and black bees, will dispute that the Italians protect their combs from the moth much better than the black bees do. We have never seen an Italian colony injured by the moth while it was in even tolerable condition, while we have seen many black ones ruined by worms. We doubt if Italian workers are any longer lived than black workers, we think they are quite as long, and do more work while they do live; and if left queenless by accident, an Italian stock will maintain itself longer than a black stock can in like circumstances.

Belleville, Canada. Do you think the tulip tree would grow as far north as this place. Apples, pears, plums and all kinds of fruit grow very well, white clover is indigenous, basswood is the ordinary fruit wood, with maple and beech. Buckwheat is an abundant crop generally; wild raspberry and all small fruits grow well. The tulip tree is a new idea, to me, and I would like to try one to see if it can be made to grow. Is it more productive of honey than basswood? L. WALLBRIDGE.

We would like to see the tulip tree tried in your section of country, and are quite sure it will do well. Here they grow fast and, so far, are handy. It is not more productive of honey than the basswood, but the honey is of very different flavor, and we think it remains in bloom longer. If any reader in Canada has tried the tulip tree, let us hear a report as to growth, even if it has not yet bloomed with him.

I am a beginner, and started last spring with an Italian and a black swarm. I got from these one black swarm and nine good hybrid swarms, and I received from all, over 200 lbs. of honey, which sold mostly at 20 cents per lb. I have now about 30 good combs in Langstroth frames. We had a terrible drouth here, I succeeded very well in every operation except introducing queens. Late in the season I ordered two Italian queens from Mr. Dadant, put them in, following Mr. Hamlin's plan; both died. From eggs the bees raised a queen, but it is doubtful whether she got fertilized or not. Now instead of having two more Italian colonies I lost the queenless one. Now, I intend to move to another place where there are no shade trees at all, so I would like to know what to plant to have shade by the latter part of May. How will hops do? and how to arrange it, or if it is better to erect a shed? I shall have to manage from 8 to 12 hives. Also, which is the best way to protect combs not in use in winter, as well as in summer? GUSTAV ILISCH.

Hickman, Ky.

You are unfortunate in getting queens so late, but your experience will help you next season. Try some other way to introduce; there is no need of loosing queens when putting them in.

In regard to shade for your hives, another season, we would recommend sunflowers planted like a hedge, south and east of them, as more sure to afford shade the first year. Grapes or hops, if planted this year, will give them shade next. We do not recommend a shed; if your hives have deep caps it is not necessary to have any other protection, but we like shade for bee hives, and believe on the whole it is best.

Riverton, Iowa. We are having very severe weather here. Part of my bees are buried, and a part surrounded by straw. I am afraid I shall loose many, because my stocks were weak in the fall. On the last part of September and first part of October, when it was warm, my bees were busy, but I noticed hundreds of fall flowers in a

stupor. They could crawl but not fly. I can give no cause for it. I noticed it at mid-day, when the thermometer stood at 80, and on moonlight nights.

E. WELLINGTON.

What blossoms were the bees on? Can any bee-keeper account for this, or has any one noticed the same thing?

I think it would be interesting to many readers of the JOURNAL, and particularly so to me, if you will answer the following:

Is Florida a good State for the honey bee?

If so, what localities are considered best?

At what season do bees swarm there?

What are its honey resources?

Can you give the address of one of its intelligent apiarians? J. B. H.

Florida is a good State for bees. Reports from bee-keepers there, who are giving attention to the business, are very favorable.

Any location where man can live is good—none have been tried long enough to decide comparative merits.

Bees swarm from the middle of March to May.

Honey resources are wild flowers, tulip tree magnolia, various wild shrubs, orange blossoms, etc.

Mrs. Charlotte Atkinson, Live Oak, Fla.

I have my bees in good comfortable winter quarters, a good bee parlor partitioned off from the main cellar of the dwelling house where they are apparently enjoying themselves cherily, with the low humming song of the busy bee, wholly unconscious of the rigors of the elements outside, which are consigning millions of their less fortunate fellows to the cold embraces of eternal death. P. MILLER.

We congratulate all who have their bees housed properly, this terrible winter. We shall hear of many losses when spring comes from those who are wintering on summer stands, without protection.

When can I transfer my four hives, now in common, rough boxes, into movable frame hives. I know that they have a goodly store of honey for the winter, and in this climate the bees go out for a little every day, excepting the few days in the year when it is very cold. At present we have still roses, sweet olives, scented violets, &c. in bloom in the open garden. I keep my hives under a large plum tree; they have no shed or other shelter. I know there are some worms in the hives, how can I get them out? When is the time to buy Italian queens? Should I need one for each hive? We are doing very well; but the water came and drowned all our little place and washed away the labor of years.

Hermitage Landing, La. L. LAWSON.

We have great sympathy with them who have seen the labors of years destroyed by floods or insects. We send you the JOURNAL, being sure that you will find in it needful instruction. You have a good place to keep bees; they need no other shelter than the plum tree. You will find good methods given in the JOURNAL by which to transfer your bees into movable comb hives and after you do that, you can aid the bees to keep clear of worms. We think May or June would be your best time to put in Italian queens,—at the North almost any time from May to November will do. We hope to hear of your success.

Voices from among the Hives.

D. S. MCCALLUM, Hornellsville, N. Y., writes:—"My bees have done very well this year. I had 60 swarms in the spring and some of them rather poor. I increased to 100 by natural swarming, and they made 5,100 lbs. of box honey, including that not capped. I put them into winter quarters in Nov., and they appear to be doing well."

B. F. H., Livingston, Ala., writes:—"There are plenty of bees in this section, but they are kept on the old plan—allowed to care for themselves; and if an annual "robbery" yields 15 to 20 lbs. of honey, the "robber" thinks he is doing well. My first task will be to try transferring to a movable frame hive. Shall undertake it with fear and trembling, and numerous stings, I guess."

J. W. DUNN, Corpus Christi, Texas, writes:—"Last March I got a hive of Italian bees from S. W. Cole; they were 13 days on the road; came out in good order, increased to five and lost one (run-away); the five I have are doing well, plenty of honey and brood. I shall not run my bees for honey, as there is a demand for all the bees I can raise at $20 per hive. I use single-story Langstroth size."

F. C., Bethlehem, Iowa, writes:—"Bees have done well, when attended to; mine average 80 lbs. to the swarm, and an increase of ⅛ during linn. I extracted 1,200 lbs. in 84 days from 20 stands, in hives containing 20 frames, one story, "a la Gallup." I am fully convinced the majority are upon their right track on wintering. Put your bees away early, or at least do not let their combs become frozen or damp. Keep them dry and cool. If your depository is dark, dry and frost proof and the bees put in proper shape with regard to ventilation, according to size of swarm, you need not fear bee diseases."

MRS. M. E. CHANDLER, New London, Minn., writes: "There are no Italian bees nearer than 3 miles of us, yet out of thirteen queens fertilized last summer, four produced hybrids; two of these swarms were very light colored two banded bees; the other two were a mixture of black and one banded hybrids. A friend of ours also had a swarm of hybrids, when there were no Italians nearer than 6 miles. Under these circumstances I think it would be well for Italian queen breeders to be careful how they warrant their queens, when there are black bees within five or six miles of them, that is, if black drones will go as far from home as the Italian drones."

B. H. IVES, Austin, Texas, writes:—"I beg to be excused for contradicting "Purchase" on page 203 vol. 10, No. 9, of A. B. J. He says "bees express no more love for their keepers than for a stranger," my experience is different. I left my bees in the country in May and went to town where I remained until Nov. When I left them I could stand near the hives and in front of them without fear of molestation, and could work with the bees without protection.

But when I returned I could not go near them, they would not let me stand near the hives, and it was several days before they became acquainted with me, but when they did, they allowed me the same privileges as before I left.

JOHN T. CONNLEY, Union, Ky., writes:—"The bee business is at a low ebb in Boone Co., Ky. We have never recovered from the disaster of 1869-'70. In the spring of 1870 there was not left in this large county as many as 10 swarms of bees. Movable frames were never introduced until since that time, they are only used now by 3 or 4 persons. Italian bees are very scarce here. My bees paid me last season over 225 per cent. I use the Langstroth 21 frame hive; have never seen an extractor in use. "The old Log Gum" is common, and in use in every neighborhood about here yet. This has been a disastrous winter on bees in old Boone Co. They are all dead as far as heard from; lots of honey in the hives, combs sweet, clean and bright. My bees are Italians, all went into winter quarters strong in numbers and in good condition. I have lost two swarms; winter on summer stands. What kills the bees? Who can say?"

SALLIE DICK, Maple Grove, Mo., writes:—"We wanted to extract, and as we could not wait to send off for a machine, my husband made one. He ordered a galvanized iron can with shoulders for the running gear to rest on; and then procured some wire cloth, coarse mash, to hold the frames in; put a stay in the bottom of can with iron or steel point in the end of wooden upright; on top of wooden upright was a small wooden wheel attached to a larger one by a leather band. We extracted 28 gallons of the nicest honey, I think made from golden-rod, by the color. I would not do without the extractor another year for anything. Our bees are put away in good order. We made our yard fence on the west, with boards fitting together, and by setting a row of posts in front shorter than the fence so that a roof is formed from the fence to them. Our hives are placed there, packed with straw and boarded all around. The entrance of hives are open on the east, one board left off at the bottom. But on cold days a board is placed along on the east to keep out cold winds. We have six stands in the cellar. It has been very cold here for the last three weeks; the ground is frozen hard. The mercury standing from 6 above to 15 below zero.

I wish John L. Crabb, of Onawa, Iowa, would give a description of his honey extractor through the JOURNAL. A man can give so much better description of such things than I can. He says in the last JOURNAL that he can make one in half a day that will extract a barrel a day. He says it would make us laugh to see his extractor. Why not indulge us in a good laugh?"

American Bee Journal.

THOMAS G. NEWMAN, MANAGER.

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"MONEY IN THE APIARY."—Such is the title of a practical little work just issued. All who wish to make the most money out of their bees should send 25 cents for a copy to Herbert A. Burch, South Haven, Mich. See advertisement in another column.

I use an article that never fails to subdue bees while I work among them. One ounce is enough for ten years issue. Those who wish to know anything about it should write me. I will trade for Italian bees.

W. N. CRAVEN.

Poplar Bluff, Butler Co., Mo.

TO WHOM IT MAY CONCERN.—Mrs. Tupper has received at different times through this office, in the years of 1873-4 imported bees and queens from Italy, to the care of the United States Express Co., at New York, and they have come through in apparent good order.

W. H. QUICK,
Des Moines. Div. Supt.

We have received a sample of friend Muth's one and two pound green glass square Honey Jars. They are very nicely made, and have a "hive" and "Pure "Honey" moulded in the glass, besides being labeled. The cork and tin foil are of the best quality, and the cap is also stamped "Warranted Best Quality." They are very nice, and our readers will do well to get them for retailing and creating home markets for their honey.

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☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginers and more advanced apiarians.

☞ Our Club offer made on page 24 of the January number concerning the clubs of ten and twenty is withdrawn.

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AMERICAN BEE JOURNAL.

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, APRIL, 1875. No. 4.

American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

Seasonable Hints.

The eggs of a queen are developed by heat, just as are the eggs of a fowl. Bee keepers are apt to forget this, in the spring, and do not economize the heat of the hive. We have seen hives out of doors in this month of changeable weather—with all the holes or top open, and the entrance as large as it ought to be in summer. Bees need no ventilation now. Every crevice should be closed and the quilts kept on the frames, that none of the heat generated by the cluster escape. If there are but few bees in the hive, we always remove all comb except as much as the bees can cover. For instance if the bees can only protect the brood, deposited in two combs, take out all the others. As the circle of brood grows larger and the weather warmer, add one comb at a time until the hive is full. In this way we succeed much better than we did when we left the hives full of comb. We have always fed colonies that needed it inside the hive, on top of the frames or in one side—and have no experience in feeding all together in the open air; but Mr. Dale, one of our most successful Iowa bee-keepers, tells us, that he has practiced feeding outside the hives with good results. We inquired if he did not in that way feed his neighbor's bees, with his own, and he gave us his method of preventing this, as follows:

"I put the sugar syrup into my shallow feeders, near the hive, quite late in the afternoon, after all is quiet about the hives. At that time my neighbor's bees are at home and will not be attracted by the food. To make my own bees find it—I go to the hives, with a dipper of the syrup and a spoon and throw a little into the entrance of the hive. The bees rush out, as bee-keepers know they will do, in such cases, go to the troughs and work busily until all is taken up. I give them no more then they can carry in; if any remains over, I take it away."

Mr. Dale says it is fun to see how busily they work at it, and how much good it seems to do them. We shall try this method in our own apiary as soon as spring comes. We need not say that it should not be tried when there is any chill in the air, and would also advise that the syrup should be quite warm when put in the troughs. Weak colonies will be the better for feeding inside the hive, in addition to this.

Be on your guard against robbery. Prevention of this is easier than cure. See that every hive has a queen—have all entrances closed, and there is little danger. If you see that robbers are attacking a hive, take it at once to the cellar until all bees are in the hives, then take it out and examine it. If it is queenless, give it a frame of brood from another hive, if you have no queen for it; but if it is only weak, protect it, and it will take care of itself. T.

Experiments with Honey.

A correspondent of the *Scientific American* has been experimenting to prevent honey candying, and states his experience as follows: During the past autumn, I have experimented as follows: I put up six 1 lb cans of beautiful linden honey, being careful to make it into one homogeneous mass by stirring. It was thrown from the combs by an extractor on July 20, and put into cans on Aug. 1. The cans were placed respectively as follows:—one in a dark, dry

cellar, one each under shades of red, yellow, green and blue glass, and the sixth can in full light. On Nov. 8, the honey in the cellar candied to a white. Nov. 22 to Dec. 10, honey under colored shades candied, first in the red, next in the yellow, green and blue; while the honey in full light remained transparent until January, when it soon candied after exposure to intensely cold weather. From my experience an equal temperature would preserve certain kinds of honey, while other kinds would candy under almost any circumstances.

I think that candied honey, instead of being looked upon with disfavor, should be recognized as evidently pure. I hope, however, that the above experiments will lead others to follow up the light theory with beneficial results.

Honey Locust for Hedging.

In reply to a question respecting the honey locust for hedging the *Western Rural* says:

The honey locust, *Gleditschia triacanthus*, is a tall, handsome tree with a spreading top. So far as hardiness is concerned the honey locust is entirely so, far north of the line of hardiness for the Osage Orange. It is not a hedge plant, if by this you mean a plant that may easily be kept within the bounds of an ordinary hedge, but as forming a barrier to stock, it is cited by practical Western horticulturists, among others Mr. A. R. Whitney, of Lee Co., as being among the very best. It is not liable to disease or insect depredations to any considerable extent.

It would take five or six years from the time of transplanting into the hedge-row to make a barrier against cattle, and unless good care was given it, longer.

Plant the seed by all means in seed beds as is practiced with Osage Orange and transplant at one year old, cutting the plant back to a height of six inches when dug for putting into the hedge-row.

Before the Legislature.

The Michigan Bee-Keepers' Association is before the Legislature of Michigan, with the following memorial:

To the Honorable, the Legislature of the State of Michigan: The Michigan Bee-Keepers' Association would respectfully represent that they have been organized and in successful operation for the past 7 years, and its proceedings have been published throughout the States and Europe with great credit to the organization and the State of Michigan, and that it has in view the building up, out of comparatively nothing, one of the greatest industries of the State, thereby effecting the perfect crossing and fertilization of our vegetables, grains and fruits, preventing their deterioration and greatly increasing their certainty and productiveness, collecting only the surplus pollen which would fall to the ground and the excessive nectar which otherwise would evaporate into the air, storing it in frames and boxes for use as food, ultimately saving millions of dollars worth of waste product. Your memorialists, therefore ask an appropriation of one thousand dollars to enable them to make an exhibition of Michigan flowers and honey at the Centennial Exposition at Philadelphia in 1876, believing such exhibition would redound to the credit and honor of the State. Said honey to be furnished gratuitously by the members of the Association and finally sold and the proceeds used for printing our annual discussions for gratuitous distribution.

H. E. Bidwell, Pres't.
Herbert A. Burch, Sec'y.
South Haven, Mich., Jan. 20, 1875.

A Chinese Bee.—The Apicultural section of the Entomological Society at its annual meeting in Paris, August, 1874, made many interesting statements. M. Durand Saint-Armand, a government officer in Cochin China, states that that country possesses a bee twice the size of ours, which consequently ought to have a proboscis long enough to extract the honey from red clover, which is known to be very abundant. This bee is found in great numbers all along the coast, in a wild state, in hollow trees, and the natives hunt them for their wax. The extensive forests of this country are leased for the product of wax, which is to be sold to the Chinese. M. Durand Saint-Armand has acquired a certain knowledge of bee culture so to be able, if possible, to domesticate the bee and send them to France. Would it not be well for our bee keepers on the Pacific to investigate this? It has a promising look.—*Country Gentleman.*

☞ One of the last Acts of the late Congress was to double the rates of postage on books, pamphlets and general merchandise. The following from the new law will be interesting to publishers:

That section 8 of the Act approved June 23d, 1874, making appropriations for the service of the Post Office Department for the year ending June 30th, 1875, and for other purposes. "Be and the same is hereby amended as follows: Insert the word "ounce" in lieu of the words "two ounces." Approved March 2d, 1875.

The second semi-annual session of the Michigan Bee-Keeper's Association will be held in Kalamazoo, Mich, May 6th 1875. We earnestly request a full attendance of the members of the association, as matters of vital importance to all engaged in apistical pursuits, will be presented for their consideration. We also extend a cordial invitation to all persons, interested in bee-culture to be present. Remember the time and place—Kalamazoo, May 6th, 1875.

HERBERT A. BURCH Sec'y,
ap12m South Haven, Mich.

Notes and Queries

Are queens wings clipped to prevent them swarming? or to prevent them leaving hives at other times. If queens do not leave at other times, cannot you give some other method that will accomplish this result?

Would you advise attempting to increase from two strong pure Italian stocks to six this season, the object being to increase with honey enough to winter on. Would it be safe to increase further?

CHAS. E. SELKIRK.

Some queens wings are clipped to prevent swarming, but more are marked, we think, to be sure of their being the same one bought. It does not prevent their leaving the hive. They do not seem to realize that they cannot fly and are more liable to be lost if clipped, than if they can manage themselves naturally. We do not clip a queen for any purpose.

We are sure you will find no trouble in increasing from two good colonies to six. To do it surely, however, you would have to feed liberally in the spring and perhaps again during dry weather in August.

Will you tell us if there is any danger of bringing "foul brood" to our aparies, by purchasing queens from Europe as Mr. Bingham and others assert. T.

There may be danger, if the queen is brought from some parts of Europe, but we think foul brood has never existed in Italy. We have never seen a case of this disease in all our experience. All the queens we have received from Europe have been healthy, if alive.

I sent my last letter for publication in the JOURNAL. I think where persons impose on us and take a high price for hybrid queens, they should be exposed, that others may not loose money in the same way.

G. H. WILLIAMS.

There are two sides, to this question. This JOURNAL has not taken upon itself to pass judgment upon others; believing that its columns may be better filled. If we give place to complaints, we must in justice to the other side give explanation, and the door once opened to complaints and excuses, however just, much valuable matter would necessarily be excluded to make room for them.

There is still another reason. The law gives us no right to publish *facts even*, if their tendency is, to injure the business of another. If a suit for libel be brought against us—it would not be sufficient for us to prove that what we had published was the truth. In law "the greater the truth, the greater the libel." If we have ourselves been injured by any one, we have redress in a suit for damages. By no law, human or divine, have *we* been made a judge of the business, even of those who advertize with us. We admit nothing to our columns, known to partake of the nature of a humbug. Though we may not believe all that our advertizers say about their patents—hives or other articles—we learned long ago that all do not think alike on these matters. Others may value what we do not think valuable. We try to give rules and records of experience, and let all judge for themselves. Every one has a right as well as a desire, in bee-keeping, as in other matters, to "prove all things, hold fast that which is good."

Please describe Melliot clover. Is it good for anything but bees?

JOHN H. GUENTHER.

Melliot is good for nothing but honey, unless it may pay to plough it under for mulching. It is the "sweet clover" found in many flower gardens; grows three feet high or more, branching out at the bottom, and remains in bloom nearly all summer.

Is it best to give bees flight before moving them ten miles. They are yet in the cave.

NEWSOM BROS.

It is alwas best to give them a flight before moving them any distance, after taking them from any winter repository.

Having a friend going to Europe I intend to send for some bees. Can you tell me how many Mr. Dadant brought home alive on his second trip to Europe? J. C. B.

Mr. Dadant did not go to Italy the second time as he advertized and expected to do. We are not informed, why he changed his plans. We sent him an empty comb to take with him by his request, and until July, thought he had gone. No doubt unforseen occurances prevented. Last season he imported queens direct but did not go himself.

What is the best way to Spring weak colonies? Is wild rice a good honey plant? What time does it blossom, and how long does it stay in bloom? A. ASPINWALL.

You will find this question partially answered in Seasonable Hints. Be sure your weak colony has a good queen, keep the hive closed, leave no more comb than the few bees can cover—and feed them regularly, all the syrup they will use. We have seen a pint of bees in March with a good queen and two combs changed to a large colony having twelve combs well filled with brood by last of May. Will some one who knows—tell us about wild rice?

Is sugar syrup as good as honey to feed bees; and if so, what grade of sugar is best.?
ELLA.

We prefer sugar to honey, even at the same price. Have always used Coffee A., but Mr. Dale informs us, that a good grade of New Orleans sugar goes farther, and he prefers it, having fed it in quantities with best results.

Voices from among the Hives.

JOHN H. GUENTHER, Theresa, Wis., writes:—"Finding my bees uneasy I gave them water and by this means soon resorted the hives to their quiet condition."

A. SALISBURY, whose directions for wintering bees were given last fall in the JOURNAL, writes:—Out of near 200 swarms of bees I shall not loose one this winter. 56 are on their summer stands, the balance in-doors.

B. Y. THORNTON, Knightstown, Ind., writes:—I have received "Money in the Apiary," advertised in the A. B. JOURNAL, and must say it is the poorest thing (the nearest nothing at all) that I ever saw or heard of on bee-culture, or any other subject. Two whole pages devoted to managing an apiary for profit in that miserable little 2x3 pamphlet, the balance all taken from the A. B. JOURNAL. They are certainly *all* cheek to ask 25 cents for such a miserable little advertisement."

JOHN J. WILLIAMS, Bachmanton, Ohio, writes:—"I wish to ask a question. My bees commenced dying last fall, in the warm spell after severe cold for several weeks. I found many in the bottom of the hive and in the cells dead, but puffed up almost as large as a queen. If I squeeze them they will pop, and the perfume is almost unbearable. On the 22d, of Feb. it was a bright day and the bees had a fly and the snow looked like as though it had red paint thrown on it. This is the first fly for 9 weeks. I winter on the summer stands. In the hives that died there were no brood but plenty of honey. I use Davidson's Patent American Hive, made of pine wood. I don't know if diet has anything to do with it. I hope some one will be able to give me some light on it."

J. P. MOORE, Binghamton, N. Y., writes:—"Bees are wintering finely here, though the winter has been severe. I am using saw-dust pillows this winter, over my bees, and like them much. They are made of heavy old woollen carpet with 2 inches of sawdust for in-doors, and 4 inches for out-doors; use very coarse hemlock sawdust, from a log saw, thoroughly kiln dried. I raise up the pillow at any time and put my hand over the cluster, and find it warm and dry; my out-doors hives are packed with about 6 inches of buckwheat chaff, underneath and on all sides. Some stocks have died in the neighborhood, that were left out in some hives, without any preparation for winter. I think they might have been saved if a portion of their honey had been taken away and a quilt, a straw mat, or a sawdust pillow had been put over them, and the cap filled with straw."

J. D. M., Richland, Wisconsin writes:—"I have 60 swarms in the cellar, some in the American hive. I built a house here about 20 years ago and got my bees from a tree close to the house and saved them when they swarmed."

GEO. PERRY, Peru, Ill., writes:—"I have nine swarms in the cellar, put in the 2nd of Jan. and thus far they seem to be doing well; three of them got uneasy and I gave them a little water; they have quieted down. I am in hopes to set the little prisoners free in a few days."

MILLER WILSON, Meredith, Pa., writes: "My repository worked like a charm this winter. See page 20, Jan. 1874. Potatoes would not have frozen had they been in it. But fully one half of the potatoes is frozen in this country.

Although the weather has been dry I have heard of no bees dying in this vicinity yet."

J. W. MCKINNEY, Camago, Ill., writes: "The same thing spoken of by C. Wellington, in March number of "A. B. J.." was noticed by me last Sept. The bees were on the bloom of the Spanishneedle. The under part of their body was usually daubed with a resinous, sticky, aromatic exudation from the bloom. The bees appeared to be stupified as if badly intoxicated.

I noticed some in the same condition about the mouth of the hives, daubed with this Spanishneedle gummy pollen.

H. E. CURRY, Cincinnati, O., writes:—"I have examined our hives and find them all in good order; some of them have brood in three sheets, they got natural pollen one day, but we have had cold weather since and I am afraid it will be killed. I never had our bees work on flour, as they did this year; they were as crazy after it as they are at robbing in August. We winter out of doors with mats on, and on examination we did not find the slightest trace of mould. The thermometer stood 12 degrees below one day but I need not tell you we have had a very severe winter."

CHAS. SONNE, Sigel, Ill., writes:—"The winter here in Central Illinois was probably as hard as almost anywhere. I wintered on summer stands, 42 hives. 19 of these were in hives which had straw packing on top, on the back and in front. The sides are double inch boards with thick wool paper in between. Of these 8 died, although they had plenty of honey and plenty of bees. The other 23 were in hives which had straw packing as above, but had also straw packing of 4 inches on both sides. Of these none died. Query: Does this show that warm packing saves bees?"

MOSES BAILEY, Wintersett, Iowa, writes:—"Last May I had 12 colonies of bees with queens and 2 without. I increased them to 74 colonies, took 1000 lbs. of honey (ext.) and most of them had sufficient stores left to winter well, but on account of several queens mismating, &c-, (brood hybrids,) I reduced the number down to 42 colonies by sale and uniting colonies, the 42 were set in my cellar Dec. 16th, 1874, and a chance one shows a slight indication of dysentery for a few weeks past. Some colonies appeared thirsty and I gave water two or three times. Some took it eagerly. Shall set them out in 3 or 4 weeks if the weather warms up sufficient to do so."

Correspondence.

For the American Bee Journal.

A Word of Cheer for the Workers.

AN ADDRESS BY FRANK BENTON, OF EDGEFIELD JUNCTION, TENN., BEFORE THE SOUTHERN KENTUCKY BEE-KEEPERS' ASSOCIATION, DEC. 31st, 1874.

It is gratifying to know that, in a time when the country is suffering from a great financial depression, a body of her intelligent citizens will gather to unite in the discussion and dissemination of knowledge concerning a branch of economy, which, with proper attention would add no inconsiderable amount to the wealth of the country. The eight millions of dollars annually produced in the United States through the agency of that industrious insect, the honey bee, is almost a clear gain to the country since their labor saves what would otherwise go to waste, a fact which has been frequently expressed by the sentence: "They work for nothing and board themselves." When we consider that the country could, to say the least, support three times as many bees as are now within her limits, (and that too without decreasing the average yield per hive,) and thus place the annual return from this branch of rural economy at twenty-four millions of dollars, we see the importance of such assemblages as this for the promulgation of all practical knowledge of the habits and best method of managing these sweet creatures, and the "Goddess of Liberty" may well afford to smile at the *honeyed* words dropped by her hardy sons of toil.

There have been three steps in Apiculture which, when compared with the rest of its progress might be termed mighty strides toward perfection: The introduction of the movable-comb hive was the first of these. It is well recognized among progressive bee-keepers that this step has completely revolutionized the keeping of bees. By the use of movable-comb hives the bee-keeper can ascertain at once the exact condition of the interior of every hive and is thus enabled to remedy all accidents which happen in each little community, (for accidents do happen to bees as well as to human beings); he can secure larger yields of honey and in a more saleable form, while rapidly increasing the number of his colonies in a new and safer manner than by the old method; in short, he can regulate the labor of his bees as certainly as he can those of any other domestic animals.

The second stride in apiarian pursuits was the introduction of the beautiful golden-banded Italian bees. Though discovered among the Alps mountains early in the present century they were not brought to this country until 1860, and this date marks the commencement of an important period in the history of bee-culture in the United States, an era of progress. The peaceful disposition of the Italians, their great industry, causing them to accumulate a surplus of honey while common bees are gathering none, their complete defense of their combs against the ravages of the wax-moth larvæ, their disposition to adhere evenly and quietly to the combs when handled, the prolificness of the queens, and their great beauty,—all these are qualities which commend themselves to us, while we cannot find that they are inferior in any respect to the common race of bees. Their introduction has aided in the practical solution of many disputed points in the natural history of the bee. How easy, now, to determine the average length of life of the worker-bee. Just place a purely fertilized Italian queen in place of a common queen in a populous colony. At the expiration of three weeks the last black workers will have hatched, and the yellow-banded Italians will begin to gnaw their way out from their prison-like cells. In a few more weeks none but the gentle race of Italy can be found in the hive. Each little laborer has but a few weeks to live and labor, and then, having literally worn herself out tugging in her loads of bread and nectar-food she bequeathes her accumulated wealth to the support of the generations that come after her and which are to perpetnate the little community through the dreary period intervening between the harvests. Surely here is an example of patience and persevering industry that should not be unheeded by the fretful, the irresolute, and the idle!

Last, but not less justly entitled to rank as one of the mighty strides of modern Apiculture came in 1867, the honey extractor or mellipult as it has been styled,—the result of the inventive genius of Major Von Hruscha of Austria. This machine is simply a tin cylinder in which to revolve the combs and throw the honey from the cells. It is so simple that the inventive American wonders why it was not thought of sooner. By its use two or three times as much pure honey can be obtained from each hive; and many seasons when no surplus can be obtained in boxes a good yield can be secured with the extractor; besides, colonies can be assisted greatly in keeping up their numbers by having the brood combs emptied of honey frequently. Who can say after all this progress that there will not yet be such additional advancement made as will place apiculture in the front rank among rural specialties?

Thanking you most heartily for your kind attention, I close by expressing the hope that, in this—your first meeting you will not, as true Kentuckians forget the motto of your beautiful State: "United, we stand; divided, we fall."

For the American Bee Journal.

Criticism.

In the *Prairie Farmer* of the 13th, Prof. C. V. Riley takes up the cudgel ostensibly, in defence of Dr. Le Baron, State Entomologist of Illinois, because I had briefly criticised the fact of Dr. Le Baron's copyrighting his Fourth Annual Report. My criticism was in the form of an enquiry; and if Dr. Le Baron considered himself aggrieved, he is doubtless abundantly able to defend himself. But the latter part of Prof. Riley's communication, shows the animus which prompted it. It was to say a word for Prof. C. V. Riley, and to vent his spite against me, for giving a plain and correct statement of facts, albeit said facts were not especial-

ly flattering to him; forgetful of the fact "that in a Republican form of government it is one of our inalienable rights to discuss every question affecting our welfare."

Now for Prof. Riley's investigations in the department of entomological research, in so far as they have been beneficial to horticulture or agriculture, or to any of the human family, in any of the pursuits of life; he has my thanks and my gratitude. For his language and logic in his communication he has my contempt. He says, "she puts language into my mouth which I was never guilty of, (*i. e.*, misquoted him) and otherwise falsifies my statements." How otherwise could I falsify his statements? And again, "I ask the readers of the *Prairie Farmer*, who are also readers of the AMERICAN BEE JOURNAL, to consider what I have said on that subject over my own name rather than the garbled account in question."

Where "over" or under his own name, has Prof. Riley given an account of what he said on that subject, (the relation of the honey bee to horticulture) at the last meeting of the Illinois State Horticultural Society? What he may have said at any other time, or place, in the New York *Tribune* or elsewhere, "over his own name," is no proof of what he said, or did not say at Peoria. If Prof. Riley has said at a Methodist class meeting that "milk is good for babes," is that proof that he has not said at any other time or place that "oysters and champaigne are fine." Thus much for his logic. Now for the truthfulness of his language. That he did express himself substantially as quoted I affirm; and for the correctness of my assertion refer to Mr. Dunlap, or to Mr. Gaston, who took part in the discussion, to Dr. Hull, and especially to Mr. O. L. Barler, who I believe reported the proceedings of the Society; and finally to any member of the Society who was present. And furthermore, that as far as his remarks were pertinent to the question under consideration, (whether the honey bee was the friend or enemy of horticulture) I believe my report was a verbatim one.

Now this very polite and courteous professor says that I gave a "garbled account, misconstrue and falsify," now I shall not say that his statements are as far removed from the truth as he is from being a gentleman, and leave the public to judge the distance; but think if this polished and urbane professor can stand such language and such logic, I, being a woman, certainly can. If I were a man, I should simply say C. V. Riley is a——; gentle reader, you know how it is yourself. MRS. L. HARRISON.

Peoria, Ill.

For the American Bee Journal.

Three Hundred Years Ago.

My object in writing now is to give some extracts from a book on bees published nearly 300 years ago, and through it I will endeavor to show that with all our boasted knowledge of the bee we know but little more than was known at that time. The only difference is that but few knew anything of the habits of the bee, to-day many know it. The book is entitled "A Theatre of Political Flying Insects," wherein the nature, worth, work, wonder and right-ordering of the bee is discovered and described together with Scriptural and moral meditations added. Written and published by Samuel Purchas, M. A., in the year of our Lord, 1600. The moral meditations I would like to give the advice, would be of benefit to our more modern bee-keepers and there would be less backbiting, ill-feeling and desire to over-reach each other. S. Purchas speaks of consulting writings on the bee written many years before. His book is dedicated to Lord Robert, Earl of Warwick. I shall only give extracts that relate to the bee so that you can form an idea of his bee knowledge and compare it with yours.

In regard to queens, he says: If the queen bee should fall from a swarm through weakness her attendants will remain with her and starve with her rather than forsake her. The queen bee is a very amiable creature, of a bright color and more transparent than other bees, she is somewhat yellow about the belly and on her legs inclining to a golden color, and the color intimates the princely nature and royal blood (could this be the Italian?). If a queen bee miscarry in the hive, or by flying forth for recreation or impregnation, or otherwise stirreth not forth, come in some mischance, all her attendants are in mourning and confusion.

The queen is a royal creature, therefore she works not, it is beneath her dignity to drudge and toil. Though she has a sting yet rather an ensign of power than an instrument of revenge, for she never useth it. There is a magnetical attractive force in the queen bee, so that what the loadstone is to iron so is she to the rest of the bees—where she is, so will they be.

In regard to drones, he says: Bees when they are weary of the drones and have no further use for them, and fearing future want by their gormandising, show their dislike by molesting them. If this will not cause them to depart, set upon them and slay them. Drones labor not, but to the eye are goodly creatures, fairer and larger than worker bees, make great noise and are vain glorious. Observe them as often as you will and you will never find them carefully endeavoring their present or future good. *Nil dignum tants sonitu.*

As to workers, he says: Worker bees are laborious in their youth and yet are not idle in their old age. Even if she findeth not honey in one flower goeth she to another. They feed on honey, which over liberally eaten produceth cholera. No wonder they are furious and choleric creatures. If confined closely they will gnaw away the impediment, though they have ease and air.

The field wherein bees feed is not a whit less from their feeding, but that oxen and sheep may grow fat. Bees can with facility dart out their stings, but have no power to withdraw them, except from a dead body, which she taketh no hurt, but in a live body she looseth both sting and life. It is a fabulous conceit that a bee when she looseth her sting becomes a drone, for it is not so, she dies. Bees though they be engaged in a furious strife with other insects wreck their spite by biting, and only when transposed with rage will they use their sting, only to their own ruin and distruction. She may trouble awhile with her buzzing but can do no further hurt. Bees smelling a field of cole-seed though three miles away will fly directly thither and be not tempted with other blossoms on the way.

As to the habits and creation of bees, he says: Many have troubled themselves as to the several kinds of working bees, whereas of working bees in this part of the world there is but one sort, and all bees agree, if not in size and color, yet certainly in operations, so that our bees and bees in Spain, and other parts of the world make all their combs with hexagonal like forms. Bees in frost are torpid, and the little worm from the egg after a short life of a week, stirs not and feeds not but lie dead and entombed in the cell it was bred, yet in a few days it will revive and appear a far more noble creature than it was before. The first life of a bee is scarcely worthy to be called life.—*Vita est non vitalis.* She is in a narrow cell without power, neither can she hear, but awaiteth to be fed.

The grub or worm in its first state of life is a rude creature, but when it is shut up to become transmuted then it is for a time a formless lump, without any beauty, but wait a few days and it will come forth in all its beauty. The young bees as soon as they have passed their second birth are winged and strengthened to fly and presently do fall to work and imitate the elder bees.

In swarming, he says: If a swarm come forth they await with impatience for the queen, go with her, encircle and protect her and where she goeth, so will they go. If a swarm be checked and stunted with bad weather after it is hived, or late in the year, the bees will be desperate and gather nothing to purpose, for they are out of hope to get enough for their winter store. Some hives will live two or three years and cast not a swarm, or if they do very late then 10 to 1 they miscarry and die, both the old stock and the swarm too. Now the best way to preserve such a stock is timely to drive it into an empty hive, and the bees being many will provide for themselves, if not they may be fed sufficiently against winter, and swarm seasonably another year. When bees are most angry in their swarming, or fighting, cast a little sand or water among them and they are presently quiet. Bees when they go forth in a swarm will sometimes be provided of a habitation beforehand. A hollow tree or an old hive, they will at once purge it of dead bees, rotton combs and stinking substances, for bees are neat, sweet and cleanly creatures, abhorring stinking places.

Let a swarm be hived ever so carefully and the hive prepared and shadowed from the sun, yet if the queen be wanting, there is nothing but discontent and confusion till she be found. Bees that are new driven or go forth in a swarm, even if they be few, will labor more diligently than other hives that are well provided for. The bee master on all occasions of want will feed his bees but never the drones. Let a swarm remain at the place where it was hived for a few days and then remove it to a new standing, yet for 2 or 3 days if they fly a brood will repair with their labors to the first place. Bees in violent frosts if they have not a few rays of sunshine become diseased from their inability to discharge their foulness, except in the hive. Bees will not continue well without a leader therefore if a union of swarms or castings be made the bees will then dethrone all queens but one.

Many, observing bees flying into their hives suppose them best furnished when they see them go home laden on their thighs, and think the others idle, whereas the others are best laden being well freighted with honey. Plundering bees will spoil and rob their neighbors, but if they find sentenels before the posts to question and oppose them, and if numerous will through treachery work their destruction.

Bees extract but little honey in July but if a honey dew falls they in a short space are largely replenished with sweets. Bees, as many other creatures, have wit enough to find out remedies for the cure of their maladies. If they be near the sea, delightfully gather from flowers in salt marshes, if they be remote from the sea they drink water from sinks and saw-pits and extract the nitous saltness therefrom.

Bees when they are contented give forth a delightful hum but if acting illegally give forth an uncertain noise like an instrument out of tune. Bees when they have filled themselves with water cannot gather honey till they have vomited it up. Bees live like soldiers, in camp and have always night and day their scouts and sentinels to keep watch lest their enemies surprise them. Bee masters tell us that the hives that make the most noise are the best ones, and they are also over-diligent to kill all the drones (as they will not only pester but prejudice the hive) and will also feed the bees but never the drones.

A bee sting enters easily and when the bee has flown away the sting works itself deeper, diffusing thereby the venom more strongly. The combs of bees are perpendicular from top to bottom of the hive and so they are long, yet have breadth likewise.

Some cells are filled with bee bread, some with honey, some with brood and others are empty. Mice are hurtful to bees and so are moths but not at all times alike. In the swarms when the bees are lusty and keep constant guard, no hurt will come to them, but when weak, or cold weather benumbs them, they can without hazard rob, plunder and destroy them. The enemies of the church are compared to bees. "Fear not their rage they are bees not lions, they buzz and make great noise, they cannot do what they would but work their own destruction."

The forgoing are but a few extracts from his book. In his preface he advises all cottagers to meet and form societies for discussions on the bee. He would be glad to give them instructions on the bee, as they can be made of great profit.

Mr. Purchas travelled a great deal as he speaks of bees in Spain were he saw and compared them. A BOOK WORM.

For the American Bee Journal.

Wintering Bees in Glass Observatory Hives.

As many Bee-Keepers fail in keeping their bees alive in glass hives over the winter I send you an account of my Improved Glass Observatory revolving bar-frame Hive; the four sides and top of which are composed of layers of glass, and I have kept bees in them for a great number of years all through the winter, and never lost a stock of bees in one of them yet.

My Observatory Hives are kept in an open latticed arbor and are always exposed, winter and summer, to the light and cold, and

are the warmest hives in winter of any kind of hive I have tried, either made of wood or straw. The thermometer in the hives (observations of which have been taken for a number of years, three times each day all the year round) indicate a mean temperature of about 4 degrees in December and January, and 4½ degrees in February, higher than the mean temperature inside my other woods or straw hives.

The bees do the best in these glass hives in winter and summer of any hive I have ever tried, and I have never lost a stock in any of them yet, and fewer bees die during the winter than in any of my other hives. The great success of these glass hives is caused by being made with several layers of glass, with a space of confined air between each, as confined air is the best non-conductor of heat of anything we know; and the reason I adopted this plan was that I noticed the bees (in some hives with a glass side my father got made in 1806) always went the farthest from the glass side in winter.

In 1844 a gentleman went to Russia, and when he returned he told me, that it was so cold there in winter, that in their cotton factories they put double windows, otherwise they could not spin their cotton yarn. I said to myself this is what my hives want, and I tried them with two glasses, which was a great improvement, but I afterwards increased them to four, as I then got three spaces of confined air instead of one, and the result has been most satisfactory.

A great many bee-keepers have tried in this country to keep bees over winter in unicomb hives made of thick wood, and also of glass and they have been placed in green-houses and all other situations where the temperature is kept uniform, but I have not heard of a single stock that did not die before spring, or so many of the bees died that they did no good afterwards.

It seems to be essential for bees to cluster together to survive the winter, and in the unicomb-hive they cannot, as both sides of the combs are exposed to an outer surface.

In November I remove the glass cover of my Observatory hives, and tie one or two folds of blanket over the top of the hive, and never have any dampness in the hives, the outside combs being as free from mould as the centre ones. I leave the blankets on during spring, but in February I put the glass covers on the blankets and make all tight and warm to encourage breeding, and to further stimulate the bees and queen I give each hive about half a pound of sugar syrup each week, taken down through just the number of holes under the bottle, so that the half pound just lasts them a week.

WILLIAM CARR.

Newton Heath Apiary, near Manchester, England, Feb. 12th, 1875.

For the American Bee Journal.

Eccentric.

The March number of the "old reliable" is at hand in good season once more, reminding us of the "long ago" when it used to put in an appearance with the advent of each month so regularly that we could have foretold it without one of "Josh Billings' Almanax." We trust that it may continue to come with equal promptness and regularity, as long as bee culture shall engage the attention of the American people.

We notice several items in our article this month that are not as we intended to have them; but as they are of minor importance it may not be worth while to correct them, especially as we might endanger our *nom de plume* by the attempt. However, we shall endeavor to prevent any errors creeping in the manuscript hereafter.

The article on "Wintering Bees" by our talented editor, while good in many respects, is, it seems to us, a little partial. In speaking of the various means devised to avoid the bad effects of cold and confinement, he does not even allude to flying bees under glass, or in other words, Mr. Bidwell's "hot-bed method." Why? Is it because that proof is lacking as regards its utility? Or is it—well, something else? We are aware that this method has not been entirely successful as practiced by many; still, we think it more than likely the result of non-compliance with the requisite conditions. Mr. Bidwell's reputation for truth and veracity are, we think, above question.

The recent action of our bee conventions seems to puzzle our friend Dadant. We were surprised at what was said at Pittsburgh by several parties in regard to this question. Though those statements have been considerably modified, it still leaves an impression of the doubtful propriety of continuing these importations. The main point in the whole matter is simply this: if Italian bees possess qualities which make them desirable, and these qualities are only fully developed in their native clime, why, we must continue to import. The idea advanced by Mr. Bingham, that we endanger the health of our own apiaries by procuring these queens is, we must think, a little too far fetched, since Mr. Dadant first tests them in his own apiary. On the whole, the moderate price at which Mr. D. now sells imported queens, and the obvious advantage of having stock in its original purity is, we think, an ample inducement to patronize Mr. Dadant. At any rate we shall do so the coming season.

There is one topic which, though of vital importance to those engaged in bee-culture, has received but very little attention as yet, and that is, what are we to do with our honey in the near future? Though our bees have died by the wholesale during the past few winters, and drought has curtailed the secretion of nectar, honey is a drug in most markets, even now. When honey by the thousand tons shall be put on our markets from California, as it seems inevitably to be done, and that at no distant day, it will be no easy task to convert our honey into money. Of course, the demand will increase with the supply; still it seems to us that honey must "come down" in price until it reaches the "bottom." After all, it may be preferable to sell at a lower figure, provided we can do so at a ready cash sale.

At this date (March 6th,—we give it to please friend Argo) reports are coming in "thick and fast" of the great loss of bees. Since many were left out on their summer stands we cannot conceive of other than disastrous results in view of the fearful protracted cold and bitter winds of the present winter. With the mercury ranging from 20 to 40 deg. below zero and almost continual high winds, it would be surprising

indeed if bees could winter out unprotected. Well, bee-keepers like all other people must live and learn, we suppose, even if it be at the expense of a dear bought experience; at least, so thinks ECCENTRIC.

For the American Bee Journal.

Adulterators of Honey.

In the JOURNAL, Page 35, No. 2, I see Mr. Dadant comes out to defend the adulterers of honey and makes some grave mistakes, but I do not believe him to do so intentionally, yet such mistakes bring serious injury. If I was in the business of selling bogus honey I should not ask any better defense for my trade than this one. He also condemns the members of the N. A. Society for wanting a means to prevent honey from crystalizing, granulating or candying. There are two motives behind this, if I knew which one then I should reply very plainly. He asks "how can you prove their culpability if you don't know the means of detecting the adulteration. I will let in the light from the "Old Keystone" from the hill top that it may be seen a far off, presently. Will some one tell us, was the honey that C. Dadant & Son took through Quincy, Ill., not long since, all candied if not, *it was spurious?* He asks that the Journals informs their readers that the best test is candying. That means then, that we cannot sell our honey until cold weather, so that it may candy, to prove its purity. That idea is absurd, but he admits it may be liquid from June to December, but from December to June they can with absolute certainty declare it sophisticated honey or that which has been boiled and lost its flavor.

I would inform the gentleman that we are Americans and not Frenchmen and do not need go to France for candyed honey nor immortality; proud America can eat her virgin honey and boast of her morality. Please do not go to circulating such errors in our papers.

Now Bee-Keepers look out, for if such a test is adopted we would not get as much good honey as we do at the present time, mixed with glucose, we do get some now but would not find any soon.

I will note Mr. Dadant's scientific points which are not sustained and pass on to give the subject a true scientific ventilation and leave all your readers to decide if the points are well taken. His statements are: Honey granulates; sugar syrup does not granulate but crystalizes. Honey candies because it is ——sugar, which granulates and does not crystalize. Sugar syrup which is made from cane sugar does not granulate but crystalizes.

We reply pointedly, that these statements above named may have exception, but in their relation as they exist in commerce are false.

HONEY.—A liquid prepared by *apis mellifica*. Honey exists already in the plant or flower of the same, and it is certain that the nectaries of flowers contains a saccharine matter, which is extracted by the insects. The character and flavor of the honey, are very much affected by the nature of the plants which predominate in the vicinity of the hive; still, it probably undergoes a change in the organs of the bee: as the saccharine matter of the nectaries, so far as it has been possible to examine it, wants some of the characteristics of honey.

The finest honey is that which is extracted from new comb and if from a hive that has not swarmed it is called *virgin honey.*

In a primary state, (and as it always exists in a healthy colony) honey is fluid; but, in being kept, it is apt to form a crystaline deposit, and ultimately converted into a soft granular mass. Its color is white, but sometimes of a brown, or redish tinge. It has a peculiar agreeable odor, depending somewhat on the flowers from which it was collected, and a very sweet taste, a feeble aromatic taste followed by a prickly or sense of acrimony in the fauces. Its specific gravity greatly varies in the early part of the season but in December (in the colony) its specific gravity is about 1.333, (Duncan). Cold water dissolves it readily. Alchol with less facility. It contains *crystalizable* sugar analagons to grape sugar, and according to MR. SANBORN, two other kinds of sugar, one of which is changed by acids: the other is not. The first of these two sugars are not always present, as it is behind, that in time is changed by acids in granular sugar. It is found abundantly in honey taken from the comb. The second is found to be similar to the uncrystalizable sugar produced by the re-action of acids on cane sugar being identical with it in composition, and incapable of crystalizing and very sentitive to alkalies. But it is distinguished by the *impossibility* of converting it into *granular sugar*, and having twice the rotatory power of uncrystalizable sugar. Crystalizable sugar may be obtained by treating candied honey with a small quantity of alcohol, which when expressed takes along with it the other ingredients, leaving the crystals nearly untouched. Same results may be obtained with carbonate of lime.

SUGAR.—Saccharum abum, refined sugar, sugar cane, contains about 10 per cent of sugar, of which there exists from 3 to 4 per cent of uncrystalizable sugar, and from 6 to 7 per cent of crystalizable. The juice from sugar cane averages about 50 per cent and is at once treated with time to neutralize or separate the gluten and album. But it is useless to treat of sugar any more than to give the tests for the detection of it in honey, and will pass it to the tests.

Its specific gravity is 1. 6. dissolves in ½ its weight of cold water. An aqueous solution of sugar when in a warm place, has the property of corroding iron partly immersed in it, and the solution itself, become impregnated with protoxide of iron and of a deep brown-red color, a similar effect is produced on lead, but zinc and copper are but slightly acted on. Sugar is nearly insoluable in alcohol, but will in four times its weight of boiling alcohol, sp. gr. 83.

Cane sugar may be distinguished from grape sugar or honey by Trouer's test. If a solution of sulphate of copper and potassa be mixed with cane sugar, in excess, a deep-blue liquid is obtained, on being headed, lets fall after a time, a little red powder. A solution of grape sugar (or glucose) similarly tested, yields, when heated a copious green precipitate, which readily changes to scarlet, eventually to dark-red. Chemically pure muriatic acid, or sulphuric acid chars cane sugar. Cane sugar is often (crush sugar) adulterated with starch and may be detected by adding a solution of ulide of Potash or tincture of iodine to a solution of honey or

sugar, which turns the composition of sugar in C. 12, H. 11, O. 11.

GLUCOSE.—Glucose or grape sugar may be obtained in various ways, but is principally from grapes by the French and is found in commerce in the liquid and solid state. The liquid has a taste very similar to that of honey which has been candied and the solid or grape sugar has the appearance and taste of candied honey, and in very cold weather is difficult of detection, except the sugar be more dry, and of a taste more like that of fruits, but if the honey be principally from fruits in September and then candied, the distinction is scarcely noticeable. Like honey, or cane sugar it is susceptible of being crystalized or granulated. Honey contains one part in four of glucose, cane sugar (as obtained from the juice) three parts in ten. Glucose may be obtained from honey by placing crystalized honey on a porous tile, dissolving what remains on the surface with cold alcohol and crystalizing. It is obtained from concentrated syrup, and is in the form of crystaline grains, but crystalized from alcoholic solution it has the shape of square tables or cubes.

It is less sweet than cane sugar or honey. It is also less soluable in water and much more soluable in alcohol, its sp: gr: 1.386.

Strong mineral acids hardly act on grape sugar, but destroy cane sugar with facility. On the other hand alkalies destroy grape sugar and form compounds with cane sugar. See cane sugar in this article for further tests for glucose.

The composition of glucose is C. 12, H. 12, O. 12.

Therefore, any intelligent reader will soon see that Mr. Dadant's test is not at all to be depended upon, even if the honey be candied.

DR. W. B. RUSH.

Simpson's Store, Pa.

North-Eastern B. K. Association.

The fifth annual meeting of this Association was held at the Butterfield House, Utica, N. Y., Feb. 3d and 4th, 1875, President Quinby in the chair.

The minutes of the last annual convention were read by Secretary Nellis, and approved.

The chair was then filled by Vice-President Alexander, of Camden. Mr. Quinby having temporarily retired.

A report was received and approved from the treasurer, Capt. Hetherington. Some time was then devoted to the enrollment of members.

A brief opening address was delivered by President Quinby. The speaker alluded to the prospects for the present meeting. He suggested in particular the education of the people to do away with the popular and foolish fear of being stung by the insects. The president spoke of the newly-found method of adulterating honey, and suggested that each honey producer place a distinctive mark upon his product which would bear assurance of its genuineness.

The election of officers was next in the order of business, and an informal ballot was taken for president. A unanimous vote was given to Mr. Quinby.

He declined to again hold the office, however, and upon motion, the election of officers was deferred and the correspondence of the Association was read.

The first essay presented to the convention was written by Prof. A. J. Cook, of Lansing Agricultural College, Michigan. It was read by Secy. Nellis, as follows :

INSECT RESPIRATION AND BEE-CULTURE.

It is a curious fact, often wondered at, that no two human faces, nay more, no two blades of grass are exactly alike. Nor is it less wonderful that each class of the various branches of the animal kingdom, has its own peculiar methods of developing structure which implies peculiar organs, with special arrangement and adaption. Hence in the articulate branch, we find that the insect class, including the myriapods (thousand-legged worms); arachnids (spiders), and the higher six-legged insects possess a peculiar breathing apparatus. They, unlike those higher animals, whose physiology is more familiar to us, do not have a common mouth for the reception of both food and air, nor yet specialized lungs, where air and blood come in near contact, that the latter may be purified. But in this class there are always more than one, often several breathing mouths, which are always situated along the sides of the body. These breathing mouths are plainly visable in the so-called tomato worm, the larva of the tomato moth, which openings looking like periods along the sides of the insect, must be familiar to you all, though you may never have know their function.

The breathing mouths may be seen by close examination along the sides of the larvae of bees, and even in the mature bee, the larger spiracles under the wings upon the side of the thorax, may be discovered by a little care in scraping off the hairs. As in the human nose there are hairs, to intercept the dust particles, so too these insect spiracles are not without even a more complicated arrangement, consisting of a sort of double value to effect the same end. These spiracles or breathing mouths connect with two long tubes, running either side of the body, which in rapid flying insects, as our bees, often expand into very large vesicles, whose supposed function is to permit a decrease in the specific gravity of the insect which is effected by filling these vesicles with air.

These lateral tubes branch into an indefinate number of lesser tubes which ramify to every part of the insect. These tubes or tracheæ, as they are technically called, are composed of a spiral thread, and as microscopic preparations are very beautiful, looking as if a gold thread had been wound closely around different sized wires, after which the wires were withdrawn. The number of these tubes is marvelous, and I am sure that I show my classes in entomology, no microscopic specimen which interests them more than a preparation of these tracheæ which I took from a bee. The specimen not larger than a 3ct. silver piece, with a power of two hundred diameters, shows innumerable tubes, seeming to form a most intricate net-work. These minute air tubes extend to every part from the tip of the antenne to the very peripnery of the legs and wings. Thus these air tubes, which are analagous with the lungs of our higher animals instead of being localized, or confined to a special part, extend everywhere, hence the blood in insects needs not to convey the oxygen of the air to the various tissues as in higher animals, for the oxygen is

everywhere ready to be taken up by the blood, which as is generally believed does not circulate in special tubes, but penetrates everywhere among the organs, passing through the interstices, and everywhere bathing this labyrinth of tracheæ or air tubes. Even the veins of the wings contain each its tracheæ around which the nutritive fluid passes freely. It is a demonstrated fact that among higher animals, it is the function of the red globules of the blood to convey the oxygen, as we also know that it is the iron contained in the hematine of these same globules which gives the blood its characteristic color. Thus we understand why in insects, when the oxygen needs no transportation, there is an almost entire absence of globules in the blood, as also why their blood is white or yellow instead of red.

It was stated above that this tracheal arrangement of insects, was analagous to the lungs of higher animals. Yet there is a marked difference, which it is well to point out. The lungs are localized organs, doing their special work for the whole body, and are doubtless none to large for that purpose, hence could we get at them, and even lacerate them without harm to the body, still I think all physicians and physiologists would hold that even a limited slicing off of these organs would injure health. I suppose that all physicians would hold that even slight phthisis would affect the general health, and that our State boards of health would labor most diligently to remove any condition in nature or domestic life, which had the faintest tendency to obstruct the free action of these important organs.

But with insects the case is far different. Each organ, or wing, or leg, has its special trachæ, whose only function is to minister to said organ. Now if the organ is an effete appendage, its removal carrying with it the air tubes does no harm. Nay more, is a benefit, as the slight nourishment which it, even if inactive, appropriated, is saved to minister to useful organs. Who would say that the amputation of a leg or arm, would entail perpetual ill-health, because forsooth the blood vessels, whose function it is to carry the blood, were removed? We all know that the vessels served the member removed alone, and the member gone, the vessels are no longer needed. So too with the insect member—it gone, the air tubes, could they remain, would be in the condition of Othello.

That this reasoning is correct is shown in the life history of the common ants (formicidæ), and the white ants (termitida) which bite off their queen's wings after the mating is over. This is done to protect against the roving proclivities of her royal highness. Are we quick to learn, if a similar need does not beget a like operation in our own management?

The history of these ants also shows that there is little danger from hereditary tendencies, as we never see virgin queen ants void of wings. Else we might pause in alarm since Mrs. Tupper and her followers have failed to convince the general public that fertilization in confinement is practicable.

Hence, we see that a thorough understanding of the anatomy and physiology of the respiratory apparatus of insects will preclude Gen. Adair's nervousness as regards clipping queen's wings, from becoming contagious.

I do not wish to be understood as committing myself in favor of indiscriminate clipping, for I readily concede that arguments can be advanced on the plea of beauty, and danger of losing valuable queens in time of swarming. Yet I do hold that the queen receives no physical injury, as proved both by science and experience, and that it is a valuable auxiliary to those apiarists who are wise to understand its dangers and advantages.

Insects, in common with many animals much higher in the scale of animal life, possess that strange power to hibernate during cold weather, at which time they seem to be on the "dead line," just between life and death. In this condition the vital processes are held in almost entire suspense. No food is taken, the blood moves very feebly, and little oxygen is required. The condition is something like profound sleep. As there is no exertion or exhaustion, and the breaking down of tissues almost cease, while no doubt there is a slow but continuous recuperation of strength and energy. Now, this being the case, it seems highly probable, aye, almost certain, that in the interims of productive exertion the more protracted the hibernation, the better the condition of the animal.

Now does it not hold to reason that if we secure the best conditions for wintering, those which will ensure persistent hibernation, as indicated by the most perfect quiet, our bees will need scarce any air, and hence no ventilation either upper or lower. Reason proclaims this as a fact. My experience sustains it. I have had colonies surrounded by snow the winter through, with hives sealed with propolis above, and the entrance below frozen solid with ice, and in this condition from November till April, come out in spring as bright and beautiful as if only restful sleep had visited them, with scarce any dead bees, and hardly any consumption of honey. Hence I believe we may conclude from our study of respiration among insects, first, that the destruction of trachæ will of itself produce no harm; that the only harm will come through the loss of the organ. And, second, that if bees are in condition to winter best, the respiratory action is at the extreme minimum, and hence we need take no pains to arrange for ventilation.

Conclusion from second inference.

This being granted, what more important problem awaits solution than a method of wintering, which insures the most perfect hibernation. How can we arrange to keep our bees always at the proper temperature?

Then followed an essay written by H. A Burch, of South Haven, Mich., concerning

FACTS AND FANCIES OF APICULTURE.—LETTER TO THE NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

Gentlemen:—By request of your worthy secretary I will present you, though in a necessarily hurried manner, a few thoughts on the subject of apiculture.

While recognizing the importanee of the work which bee-keepers' conventions are aiming to accomplish, and appreciating the great good they have already accomplished, and being anxious that their field of usefulness may be greatly extended, it seems to us that a consideration of this subject is one which might result in good to us all. In reviewing the history of apiculture in America for the past decade, we find much to encourage us in our endeavors to establish our pursuit upon a permanent, scientific basis. While this is the case, we cannot deny that there is also very much that is to be regretted, much that mars the otherwise fair history of bee-culture. He who has attentively read our various bee journals cannot have failed to note the spirit of much of their contents as being prejudicial to our interests. How many of us have, with a sort of boyish impetuosity, *urged* people to engage in bee-culture. To the man broken down in health; the man whose pocket book was empty; he who had failed in other callings; those who were dissatisfied with the slow but sure accumulations of agriculture or mechanical trades; to all these have we pointed out apiculture, as the one sure pathway that leads to wealth and

happiness. In doing this, we have ignored the fact that all men are specially suited to some particular calling; that to make this occupation of bee-keeping successful, he who engages in it must, by nature, be adapted to its requirements, in some measure at least; that it requires money, brains and muscle to conquer obstacles and achieve success, as in other pursuits.

We have too often portrayed a path all strewn with roses without thorns; all sunshine and no storm; a pursuit that embodies the very essence of earthly happiness with none of its alloy. As if this were not enough, we have descended from the airy realms of imagination to life's every day level, and with all the fascination of a romance, portrayed the achievements of a Grimm, a Harbison and a Hetherington, in "honey gathering rapidly," forgetting that where one man has been thus successful, a thousand have failed.

Gentlemen, this is no overdrawn picture. Thousands of persons in this country will tell you that it is only too true. How many men who were urged into the keeping of bees a few years ago, and who have lost all during the past two or three winters when bee life "took wings and flew away," we know not. We do know that the number has been by far too many, and that it has been to our injury, bringing our fair calling into disrepute in many sections. We have been made to realize this most forcibly in receiving numerous letters from parties stating that they engaged in bee-culture by our own and the advice of others, given in bee journals, and had lost all.

While pleading guilty to some extent, in this respect, we have resolved to avoid this error in future, and make amends as best we may, by detailing that which may contribute to the success of those already engaged in apicultural pursuits. A few suggestions and we are done.

Let us *cease* to *urge* people to keep bees. How many men who are eminent in their callings or professions were urged to choose as they did? The men succeed who engage in any business from *a love of that business*, possessing talents which qualified them for it. These are the men whose names adorn the annals of every science known to man; the men who have led the advance in every department of the progress and improvement of our modern times; the men whose genius has given an irresistible impetus to our advancing civilization. Rather let us turn our attention to those things which tend to establish our pursit upon a permanent basis; and when we shall have learned how to avoid failure and win success ourselves, it will be ample time to teach those who do not know how to succeed. Until bee-culture is rendered more certain and less precarious, let us cease to relate fabulous tales, which excite the curiosity and superstition of outsiders that must so often end only in chagrin and disappointment.

In behalf of the Michigan Bee-Keepers' Association which we in part represent, we send greeting and best wishes for your continued prosperity, trusting that your future sessions may be mutually present and profitable. Fraternally,

HERBERT A. BURCH.

L. C. Root approved the position, claiming that there should be a careful training and education in the direct care of bees before profit can be assured, and that those who attempt it without the study, may expect to fail.

A letter was read from W. W. Cary, of Mass., taking position that there has been much injury done to the bee-culturist by breeding queens not in accordance with natural laws, because degeneration is the result. A good queen mother should be of good size, large to the chest, trunk somewhat tapered, movements strong and even and by no means of a nervous temperament. A nervous queen is usually short-lived and should not be used as a queen mother.

Mr. Nellis and Mr. Tennant approved the growing of strong queens and of crossing the stock continually.

A letter was read from Dr. W. B. Rush of Penn., stating that he was engaged in a new method for wintering his bees. Capt. Hetherington remarked that it was apparent that Dr. Rush was an investigator, and moved that the secretary be instructed to request him to give the results of his experiments at the next convention. The motion was carried.

Upon motion Prof. A. J. Cook, H. A. Burch, W. W. Cary and W. B. Rush were made honorary members of the Association.

The convention then listened with interest to an address by S. Alexander, of Camden.

IMPORTANCE AND BEST METHOD OF EDUCATING MEN TO THE BEE BUSINESS, TO PREVENT LOSS IN POOR SEASONS.

The eccentric Thoreaux demonstrated by experience, that man may healthily subsist on a very small amount of expense. But the requirements of our modern taste and time, does not regard abstemiousness as virtue, nor denial of the good things of life as condusive to the truest enjoyment.

Honey has, in all ages, been regarded as THE sweet, the nectar of the gods, the synonym of luxury and enjoyment, the highest ideal, "a land flowing with milk and honey," assuming with our savans, that honey is not made, but gathered, and consequently if not gathered, lost, it becomes a question, whether with knowledge adequate to its collection, man is justified in rejecting (which neglecting is) to secure such a valuable article of sustenance, perhaps the most condensed and healthy nutriment in existence. We think we may as well acknowledge that man is mainly, if not exclusively, controlled by self-interest. (The nearest approach to unselfishness I know of is this Society, teaching and inducing others to enter the field as competitors). That being the case, we think to discuss this question of how best to educate our neighbors can best be done by our own success? If we satisfy them that every ten acres is sufficient for one hive, that every hundred acres, admitting that all kept, would give sufficient range for ten hives,

which properly managed and honey extracted, (which for surplus is the most rational method yet devised) would give an average of at least 1,000 lbs.

Besides, every enlightened cultivator knows that fertalizing of all fruits and grains is thereby secured to a much greater extent. When satisfied of these facts, what is the best course for those wishing to engage in the business? I would advise to associate themselves as partners or otherwise, with those who by experience and study had so far mastered the science as to be competent instructors—in one word learn the trade—reach in this way the knowledge which has cost years of study to attain; for it is my humble opinion, and I have kept bees more or less of the time for the last 40 years, that there is no business or occupation that man ever prosecuted or engaged in, that the scientific or right way is so different from the old way as bee-keeping. Having raised it above all chance or luck, except the occurrence of unfavorable seasons, the truly enlightened apiarian will have his stocks in a situation to make available every advantage which may arise. Strong at the proper time, less in numbers when bees can do nothing but eat, recognizing them as active, never being entirely dorment, keeping them in a comfortable and suitable temperature, health and condition; with this knowledge, with this care, I think the very worst seasons will afford as much for the credit side of the ledger, as most other occupations under like discordent circumstances, for I believe that there is no occupation where the same amount of capital, will be subject to less drawbacks.

I would not like to guarantee that ten per cent. of those who engage in apiculture will succeed. No power on earth can make them painstaking, persevering, intelligent and determined. The few will prosper, the rest will fail and scatter the seeds of disease and destruction among their neighbors, and then say bee-keeping is a humbug. I have tried it. A few will persevere, will read, will write, will meet together for the purpose of mutual instruction, and their success and satisfaction at having enhanced the means of enjoyment, secured a pecuniary compensation and opened a wide field for industry and enterprise.

Though the most advanced in the science of apiculture, like the desciples of other science, never expect to reach perfection, yet already much has been attained: and the agitation of thought is the beginning of wisdom, in this as in every other attainable acquisition. Mind, the great motor, will devise methods, recognizing law, not chance, as the true principle, from affects deducing causes, acting in harmony with our industrious pets, making their instincts available for our advantage, and while benefitting ourselves, make the world and its sentient creatures better and happier from our having lived.

Upon motion of Mr. Nellis, Messrs. L. C. Root, J. E. Hetherington and C. C. VanDeusen, were constituted a committee to open a question drawer. It was moved that a committee be appointed to examine the minutes of the North American Bee-Keepers' Society in order to see whether there was anything of which this society should take cognizance. Messrs. J. H. Nellis and N. N. Betsinger were appointed the committee.

The election of officers was then effected with the following result:

President, J. E. Hetherington, Cherry Valley; Vice Presidents, G. B. Seeley, Syracuse, S. Alexander, Camden, I. L. Scofield, Chenango Bridge, N. C. Fisk, Abbotsford, Prov. Quebec, Canada, G. G. Dains, Antwerp, G. H. Byrns, Pratt's Hollow; Secretary, J. H. Nellis, Canajoharie; Treasurer, L. C. Root, Mohawk.

A discussion ensued concerning stings, and assurance was given that with determination and intelligent action and precaution, the danger of stings may be overcome and fear removed.

The Association adjourned until half-past eight o'clock the morning. In the evening an informal meeting was held at the Butterfield House, which was greatly enjoyed by those present.

SECOND DAY.

The second day's meetings began at nine o'clock, Thursday morning, the newly chosen president, Capt. Hetherington, in the chair.

J. H. Nellis, reviewing the proceedings of the North American Bee-Keepers' Society, noted the fact that preparations are being made for a honey display at the Centennial; that the Society adopted strong resolutions denouncing the trade in adulterated honey; that a standing committee was appointed to arrange a system of premiums for Italian queens and full colonies for the next meeting of the Society; that the next place of meeting will be Toledo, Ohio, and the time, the first Wednesday in December, 1875; also that a receipt was read which it was claimed, will prevent syrup or honey from souring or granulating. The receipt is, flavoring extract of lemon, 1 teaspoonful to 1 gallon of syrup or honey.

Mr. Van Deusen moved that the President and Secretary act as a committee on behalf of this Association to do what is necessary toward a representation of the Association and the productions of its industry at the Centennial. The motion was carried.

Considerable doubt was expressed as to the feasibility of the plan and the ability to judge of the merits of bees and queens by their appearance, in order to give premiums or diplomas.

Mr. Root thought the flavoring extract of lemon should be classed among honey adulterations and denounced. Educate the people to know that the granulation of honey is a good sign of its purity.

This seemed to be the general opinion of the Association.

A paper on "Hives" was read by R. Bacon, Esq., of Verona, as follows. We quote the concluding portion :

I do not propose to discuss the merits of this or that hive, such a course would only result in a buzz about my ears, without, as I think, leading to any good results. It is with hives very much as with mowing machines, the farmer often viewing and reviewing the different machines is puzzled to determine which is the best, yet, no doubt, some are preferable to others. So it is with hives, We see in market tall hives, short hives, narrow hives, wide hives, two story hives, one story hives, bar hives and box hives, and many other hives, and men ready to show you the good qualities of one hive over the other, and, when you have gone the rounds, if you have had no practical experience in bee culture or have no judgment of your own, you may be led to believe the poorest hive the best. I would advise the beginner in bee-keeping to use discretion in this matter and take the middle ground. He should choose hives containing frames of convenient size, and safe to handle, for general use. They should not be complicated or costly; they should be capable of construction by any man who is handy with tools. The bee-keeper who does not depend on his bees for support may lay out money for costly and fanciful hives ; but the majority of bee-keepers want a cheap, practical hive. I have had rough, cheap hives, and elegant, costly hives, and I have found in every case, all things being equal, bees have done full as well in my rough hives as in the more costly ones. The wants of bees are few, and they are not partial to fancy hives, and all variations from their wants are to benefit or gratify the taste of man. Give the bees a proper-shaped hive, and sufficient amount of room in the hive, and good care, and they will give ample returns. Now, there has been much said and written on what constitutes a proper size and shaped hive. Some contend a hive should be large. Others say twelve inches square is the proper dimensions for a standard hive. Now, my experience with large hives has been anything but satisfactory; they neither gave new swarms nor a large amount of surplus honey. Of course I speak of working these hives for box honey. I think an extractor would show better results, but my experience in the other extreme of hive has been no better. A hive twelve inches square is too small for bees in any place. The swarms from such hives will be small and generally inferior compared with swarms from larger hives. There is but little room for surplus bees, and therefore not a very large amount of honey can be expected, and with the best of care in two or three years, the bees will be gone. Between these two extremes, I believe is found the correct medium. A hive sixteen inches long, twelve inches wide and twelve inches deep, and frames to fit, and have it so constructed that side boxes or extractor can be used, if the season requires it, comes nearer to what I think is the hive for general use. The frames are of convenient size, and safe to handle for either extracting or other uses. The size of the hive is simple for the wants of the bees, either in summer or winter, and I think we will hear of less mortality among the bees wintered in this hive than in our shallow ones, and I think for surplus honey will be satisfactory. Of course I am speaking of raising bees in the North. If we were in the Southern States, no doubt a different hive would be required. I believe it is often the case that localities cause very much contention about the style of hive and the management of bees, and were we to consider from each other's standpoint, and reason accordingly, it would save us many jangles in bee culture.

Mr. Alexander asked whether a frame 12 inches deep and 16 inches long, would sustain the comb.

Mr. Bacon—My frames fit a 16 inch hive and are not more than 14 inches long and less than a foot deep. These held the comb perfectly and had no difficulty in breaking down. I have two reasons for this size. You will get more surplus honey from this depth of hive and the bees winter in them better.

Mr. Hetherington—Combs can be held in the long frames by putting the thorns of the red haw through the frame and into the comb.

Mr. Seely—Do not the bees try to eat out the thorns,

Mr. Hetherington—Yes, but only a trifle. A soft wood pin they will eat at, but one of these thorns with a glossy surface they will trouble very little. The thorns should be put in when the bees are gathering honey in abundance.

Mr. Betsinger—Thorns are good in large frames, but in small frames they are a nuisance. A frame ought to be the size of the brood chamber. This is rarely over nine inches in width. In the large frames the best honey is placed around the brood chamber and this honey is lost to the bee-keepers. I believe that for box honey the frame should be only the size of the brood chamber. For extracting, a larger frame could be used to an advantage.

Mr. Alexander—The insertion of the thorns requires time and trouble. What I wish to gain is a frame which will hold the comb without them. Mr. Bacon says his size will do this. Mrs. Tupper recommends twelve inches square. If it can be lengthened to 14 or 15 inches it will be a great advantage. It seems to me that a shallow hive like Mr. Betsinger's is inconvenient and not good for wintering.

A. L. Fish—Has there ever been a bead placed on the inner side of the frame to hold the comb steady. Would this be practical?

Mr. Root said experiments had been made in that direction, but they had not been found practical.

Mr. Nellis wished to know how many frames could be spread laterally to the best advantage in extracting.

L. C. Root—I would not have more than twenty-four frames in any hive. The queen is apt to move to one side, and the bees on the other side thinking they have no queen will proceed to rear one. I believe that the two-story arrangement, getting the frames into as near a spherical position as possible, is natural and best. If I have twenty-four frames I would have twelve above and twelve below.

A. L. Fish—A queen will work in the warmest part of the hive. I find that in a sixteen-frame hive, when a new swarm is put in, it is a good plan to put in a center board, confining the swarm at first to eight frames. If they afterward require

more room the center board may be removed.

Edward J. Wickson, of the Utica *Herald*, addressed the convention upon the commercial aspects of the industry. In closing, Mr. Wickson made the following reference to a subject of great importance, both to honey producers and consumers. He said:

Doubtless one of the most vital questions connected with the marketing of honey is called forth by the effort, which is now being made by unprincipaled men, to sell the people that which is not honey. The article which they falsely offer as honey is very inferior, and one who is acquainted with the genuine article would not be misled by it, even if it had a honey label on the exterior and a comb inside. But the very ignorance of the people generally of what good honey is, affords an opportunity for the introduction of this spurious article. It is in the hands of shrewd, unscrupulous men, and they spare no effort in pushing it forward, because there is great profit involved in it. As it now appears, the people will become educated in bad honey much faster than in the genuine delicious product of the bee. This will be fatal not only because it will supplant the legitimate demand for the real article, but because of its inferiority it will lead them to look with aversion upon the very name. A land flowing with milk and glucose would not have led the Israelites through the wilderness nor will a copious dosing with glucose lead modern people to esteem very highly the historic sweets of Canaan. The whole matter is exceedingly unfortunate not to say criminal, and bee-keepers should prepare to meet and battle against its advance at every point. It seems to me no stronger showing could be made than by securing an accurate exhibition of the fraud, such as a skillful chemist might make by ascertaining the exact difference between the genuine product of the bee and this substance which can be artificially produced from a number of worthless sources. So long as the article they offer is not positively harmful, I can not see that there is any opportunity to meet it with a prohibitory law, but if there is any virtue in efforts to inform people of the imposition practiced upon them: if there is any effect in a square, generous exposure of these gentlemen, let them have it at the hand of this association which is formed in the interest of the legitimate production and in the promotion of a growing agricultural industry.

I think this convention owes it to the industry to take immediate steps to meet the advance of this specious fraud. First, we should know more about what it is and in what respect the artificial differs from the genuine. It has come upon us suddenly. It seems to me that we could act more wisely after gaining fuller information. I would suggest, Mr. President, that first this convention adopt some expression of a general nature denouncing the attempt to defraud and calling upon people to beware of being imposed upon. Then I would suggest that a committee of your leading bee-keepers be appointed to study the question during the coming year, to gain all possible information concerning its exact quality of material, and who is engaged in spreading it over the country. In order that next year, after listening to a full report of the committee, we may be prepared to act intelligently and effectively against the imposition in such way as the wisdom of the convention may indicate.

Upon motion of Mr. Nellis, the association heartily approved the action taken by the North American Bee-Keepers' Society concerning the introduction of spurious honey. After much discussion and upon motion of Mr. Alexander, the following gentleman were appointed to present the fact of adulteration to the Legislature, and ask that an act be passed requiring a label, "pure honey," to be placed upon all packages of the genuine article, and making it a misdemeanor to affix the name to a spurious article. The committee are as follows: J. E. Hetherington, J. H. Nellis, G. G. Dains, M. Quinby, E. J. Wickson.

A short discussion concerning wintering bees ensued. Mr. Root would winter bees in a place where they would be as free as possible from out-door influences. The temperature should be as little below 50 degrees as possible. There should be perfect quiet.

A. L. Fish—I built a bee house with an air chamber in the walls twelve inches wide. Overhead the space was packed with fine saw-dust and shavings. To overcome this I covered the floor with gravel and cement. I am not troubled with moisture as much as formerly, but still there is too much. I think some absorbent can be placed above to absorb this moisture as it rises. I think of trying a coating of loose straw. I can control temperature until June, if necessary; but how to get rid of the excess of moisture which comes from the exhalations of the bees has been a puzzle.

Mr. Bacon—I have used cut straw for this purpose with excellent results. It is contained in a box with a cloth bottom, and this rests over the frames in which the bees are.

Mr. Betsinger described a way he had devised of giving his bees a fly under glass. He built a bee house, in which each two hives sit in a little stall by themselves with a little space in front of each hive. The exterior of each stall is a little window, and about three times during the winter he admits the sunlight, and the bees take a fly in the stall. He intends next season to encase all his hives in the stalls. The cost of the house is a dollar a hive.

Mr. Bacon told of a hot-bed which he made in which to fly his bees. He had tried it once with one hive. The bees had a fly. They were left in the hot-bed all day and over night. Altogether, after having this long time in the air, there were found but three table-spoonfuls of dead bees. Mr. Bacon believes the hot-bed good for giving a hive which might have the dysentery a chance to fly and recover. He does not believe that it can be recommended as yet for general use.

AFTERNOON SESSION.

One of the most interesting exercises of the convention was the "question drawer," which was expounded by Mr. Van Deusen, with the aid of Capt. Hether-

ington and Mr. L. C. Root. These questions and replies are of such practical value to the bee-keeper that we print this part of the proceedings verbatim. Much discussion was intermingled, but nothing of importance was elicted aside from the answers as given here.

Question. Is there any profit in buckwheat honey? Answer. Yes.

Q. Can brood be reared successfully in March and April? A. It is best to have no brood started until the weather is sufficiently warm and settled to enable them to start a full brood. The presence of a sufficient amount of pollen must be assured.

Q. What effect has the shape and size of the hive on freezing or on the amount of honey stored? A. Very little provided they have plenty of accessible room and the proper temperature is maintained in the hive.

Q. The best mode of caring for bees after they are set out in spring and before the honey harvest? A. Feed and keep warm.

Q. Will bees store enough more honey in boxes with communications from box to box to pay the extra trouble, than to have the boxes separate? A. Yes, in small boxes, but not in large.

Q. How many swarms should be kept in one yard? A. This depends upon the quantity of honey-producing plants; from 50 to 100 swarms.

Q. What is the best size of the brood department? A. Let it vary according to the quantity of bees.

Q. About what amount of honey is sold in New York city, yearly? A.—About 400,000 lbs.

Q. What is the most suitable package to put extracted honey in for market? A. This depends upon the market in which it is to be sold. In some cases it sells best in bulk or by the pound net weight; in other cases in glass jars.

Q. What is the proper thickness for a single comb in a box? A. 2 to 2¼ inches.

Q. How near to the ground ought hives to be placed during the summer. A. 4 or 5 inches.

Q. Will using the extractor on comb containing eggs or larvæ produce any injury; if so, at what time most? A.—There is no injury unless larvæ are thrown from the cells by too rapid motion.

Q. Is it advisable to undertake to Italianize your apiary when you are surrounded by black bees? A. It certainly is, if in a locality that produces much white honey.

Q. How long from the time the eggs are deposited in worker's cells before it cannot be changed to a queen cell? A.—Would not use it older than the third day after hatching.

Q. If a queen's wing is clipped about half off by a trusty, experienced hand, is there any injury; if any, what, and in what way? A. There is no injury.

Q. Making an examination of my stocks in January, I found some stocks from which the honey was leaking. What is the reason? A. This condition is found only in hives that have been so exposed to the cold as to crack the combs with frost—or in hives that are so poorly ventilated as to retain the moisture and sour the honey.

A long paper was read by Rev. S. P. Lander, of Clinton, to refute the popular belief that bees do injury to fruit. Mr. Lander has raised grapes and kept bees, and after years of observation, he is sure a bee never attacks a sound fruit. Bees do not bite into fruits or blossoms to get the juices. If they did the hive would be enriched with honey of the honeysuckle, and some other similar plants from which full drops of honey might be gained if the bee could bite into it. Mr. Lander took issue with several newspapers in which were statements that bees destroy grapes, pointing out many inaccuracies in the statement, and throwing a strong suspicion of falsity upon them. The speaker alluded to Prof. Riley's recomendation that milk-weed be planted to rid buckwheat fields of bees. Mr. Lander thought if any man was fool enough to cumber up his land with milk-weeds, for the sake of killing his neighbor's bees, the bees could stand it if he could. The idea that bees destroy the buckwheat crop, Mr. Lander has considered and watched the growth of the grain and the behavior of the bee, and is convinced there is no truth in it.

After some general discussion, the convention adjourned to meet in Rome, N. Y., next winter, at the call of the executive committee. This year's meetings have been a great success, and have been enjoyed by all present.

All of the discussion of the evening meeting and much that occured during the regular sessions, has not been reported.

The following table will be of interest to all bee keepers. The information was collected by Secretary Nellis. The whole seasons' operations, and a summary of the methods employed by each bee-keeper, are thus condensed into a line of type, and the records will reward a careful study and comparison.

NAMES.	SUCCESS IN WINTERING. No. of Stocks. Fall, 1873.	Spring, 1874.	Condition in spring	Where Wintered.	SUCCESS OF THE SEASON'S OPERATIONS. No. of Stocks. Spring, 1874.	Fall, 1874.	In fall. Italians.	Blacks.	Kind of Hive.	Amt. honey produced. Box.	Extracted.	Amount of Wax.	Extra Queens Reared.	Principal sources from which the honey was gathered.	Average value of the honey season.	Amt. of sugar fed in fall.
J. Hoffman	60	60	g*	Cellar, 36+.	60	105	105	....	10 frames, 11x 3	4,500	350			White clover and basswood	Average	200
H. N. Waters	42	25	w	" 38.	25	42	6	36	7 " 8x17½	1,200	50	5		do. do.	Poor	
J. A. Burdick	21	17	w	House, 35.	17	31	31	....	8 " 12½x12½	65	943	5		do. do.	Average	
R. Bacon	61	59	m	" 38.	63	134	....	134	8 " 11x14¾	2,455	506	20		do. do.	do.	
J. H. Nellis	43	20	w	Cellar, 37.	20	37	38	....	8 " 10½x18	560	775	33	36	do. do.	Good	15
L. C. Root	....	....	g	" 43.	55	66	....	66	8 " 1 7/8x14 7/8	2,010	380	3		do. do.	Average	
Wm. Miller	8	6	g	" 45.	100	121	50	..	8 " 10x18½.	3,000	7,271	75		Chiefly basswood.	do.	230
S. & E. W. Alexander	60	57	w	Basement.	6	16	....	16	Box	100				White clover and basswood.	do.	
J. Countryman	30	28	g	Cellar, 35.	57	112	....	112	8 frames, 12x12	1,800	2,150			do.	do.	
C. D. Jones	25	25	g	" 47.	28	48	....	48	Box	100				do. and basswood.	Poor	
A. H. Root	18	18	g	" 42.	25	30	18	12	10 frames, 12x13	1,300	300			do. buckwheat	Average	
L. Baird	27	27	g	Out doors.	18	29	hyb	....	8 " 10x15½	1 111	712	20		do. basswood.	Good	
G. H. Byrns	....	....	....	Cellar, 40.	24	34	21	hyb	10 " 8¼x16¾	2,000	600	8		do. buckwheat	Average	
S. P. Landers	27	27	g	Out doors.	20	34	mix	....	10 " 8½x18		1,300			Basswood	Good	
David Klock	97	35	w	Cellar, 34.	35	62	....	....	9 " 14x12	230				White clover and basswood.	Poor	50
Jerome B. Tuttle	60	60	m	"	35	87	"	87	Box	800		28		Raspberry do. do.	Average	
E. D. Clark	....	....	....	..	50	103	mix	....	"	250				Chiefly basswood..	do.	
J. Z. Brown	15	9	w	Cellar	4	16	....	16	10 frames 17x'4¼.	100				White clover and basswood.	do.	75
N. N. Betsinger	99	94	m	Out doors	2	5	....	5	13 " 10½x0½					do. do.	do.	
M. H. Tenant	42	37	g	House, 44.	78	155	155	....	8 " 9x14¼	6,400			25	Basswood and teasel	do.	
I. L. Schofield	40	38	m	Cellar, 39	30	50	....	50	8 " 17x10	2,566		25		White clover and basswood.	do.	
F. H. Gates	25	20	m	" 40	35	50	50	....	10 " 8¼x17	3,000	400		40	do.	do.	
Martin West	25	25	m	" 38.	20	45	10	mix	8 " 10x16	1,000				Clover, basswood & buckw't	Poor	
A. Tuttle	37	34	g	Out doors.	35	65	mix	50	Box & 8 frames 10½x18.	1,700	300			do. and basswood	Average	
C. C. Van Deusen	60	30	w	Cellar, 41, out doors	34	70	"	....	9 frames 9x14¼.	1,200				Basswood	do.	
N. C. Fisk	68	64	m	Cellar, 40.	54	75	"	....	3 to 8 " 10¼x15 and 16	3,500	275	60		White clover and basswood	do.	25
A. L. Fish	15	15	w	House, 40.	64	120	....	120	Box	1,100				do.	Good	
H. J. Hildreth	40	30	w	Upper chamber, 50.	5	15	3	12	16 frames 12x13	60		10		W. clover, bassw'd & buck.	Average	
A. M. Sawdie	3	3	g	Out doors.	30	59	mix	..	6 to 8 " 10x18	700				White clover and basswood.	Poor	
W. E. Clark	8	6	w	Upper chamber.	5	12	..	12	8 " 11x14.	333				do. do.	Good	
D. L. Betsinger	5	5	m	Out doors.	12	23	...	23	Box and 7 frames 12x16.	800		30		do. do.	Average	
Lafayette Richards	14	14	g	Cellar, 40.	5	11	..	11	9 frames 12x16	200				do. do.	do.	
S. Joslin	....	....	....	..	14	12	....	12	Box.	100				do. do.	Poor	
A. N. Comes	24	7	w	Out house.	2	5	....	5	"	70				do. do.	Average	
J. H. Dudleston	91	82	g	Out doors.	7	18	....	18	18 frames 11x10	150		11		do. alsike	Good	
C. A. Shattuck	1	1	w	"	82	162	27	135	9 " 7x16¾	1,820		52		do. basswood.	Average	80
A. W. Smith	....	....	....	..	1	2	....	2	8 " 10x10	25				do. do.	do.	
W. P. Wakelee	3	3	g	Out doors.	2	2	1	1	8 " 10x18½	40	64			Basswood	do.	5
J. E. Hetherington	....	....	....	..	3	7	....	7	Box	60				do. and fall flowers	Poor	
					234	370	mix	....	8 frames 10¼x16	19 907	3,150	450		do. buckwheat	Good	

*Explanation—*g.* good; *w.* weak, and *m.* moderate. †Degrees, Farenheit.

J. H. NELLIS, Secretary.

Comparative Merits of the Italian, Black, and Hybrid Bee.

I see in the AMERICAN BEE JOURNAL during the past year, many articles written on the superiority of the Italian bee for honey-gathering.

Bee-keepers' meetings throughout the country still continue to discuss this subject. In nearly all these writings and discussions, a large majority unite in claiming superiority as honey-gatherers for the Italian bee.

Having kept bees for the last ten years, more as a source of pleasure and pastime than for profit, I have been an impartial but not indifferent observer of the habits, disposition, and honey-gathering ability of the Italian, black, and hybrid bee.

As a result of my observation I would submit the following short statement.

During the ten years I have kept bees, I have had some of each of the above named varieties ; a larger portion however has always been pure Italian.

The Italian bee is superior to the Black in the following particulars, viz :

1st. In gentleness of disposition. 2nd. In graceful form, size, and color. 3d. In adhering to the combs when being handled. 4th. In *storing honey close around* and *in* the *common center* or brood nest. 5th. In gathering up and using wax, lying about the apiary. 6th. In *defending their hive against the encroachments of moth.*

The Black bee is superior to the Italian in the following particulars viz : 1st. In ability to withstand a greater degree of cold during winter. 2nd. In being less liable to abandon their hive in the spring on account of weakness of numbers. 3d. In maintaining their strength during an abundant honey-gathering. This is undoubtedly owing to the queen promptly depositing eggs in the cells as fast as the young bees emerge. 4th. In *building new combs* either in boxes or frames for surplus honey. 5th. *strong texture of wings* thereby enabling this member to last as long as the life of the bee. 6th. In rearing broods two or three weeks later in the fall ; thus enabling them the better to get through the winter.

As the Hybrid partakes more or less of the Italian or the Black, so will the characteristics of the one or the other as above enumerated be manifest.

Hybrids that I regard as the best in my apiary, are descended from Black mothers; and were obtained in this way : A Black queen was fertilized by an Italian drone. From the eggs of this queen were reared Hybrid queens and where these young queens became fertilized by Italian drones, I have Hybrid colonies the most satisfactory.

Therefore if we wish to secure in a colony, gentleness, beauty of form, size, color, etc., and good defenders against moth; ability to withstand cold, maintain their strength during bountiful honey-gathering, and *build combs* for surplus honey, secure these Hybrids. I obtained more than three times as much box honey from these, as I did from any of my pure Italians last season.

To obtain a large yield of surplus honey from the Italians, the extractor *must* be used.

They *will not* build combs readily in boxes or frames, for the reception of surplus, but instead will deposit the honey, when the flow is abundant, in the brood combs and forstall the queen.

My Hybrids above described will build combs as readily as the Blacks, and give nearly as much box honey as the extractor will from the Italians.

My advise would be to any one wishing to secure *extracted* honey only, to keep pure Italians ; because they are the most agreable to handle, and this has to be done very often during the season in using the extractor.

If you want to obtain large amounts of surplus honey' partly in boxes and partly extracted, keep *the Hybrids.* (Second generation from a Black mother is best.)

If you want to secure box honey only, (a less quantity than you can obtain from the Hybrids,) and do not want to handle your bees often, and do not mind being frequently and unceremoniously stung when in the apiary, keep the Black bees.

Camargo, Ill. J. W. MCKINLEY.

Improved Breeding—Queen Raising, etc.

May it not be an important fact in the improved breeding of bees that more particular attention should be paid to *the proper manner of raising queens;* and this brings up a question upon which I with many others would gladly be enlightened.

Has any of our numerous queen breeders observed any difference between queens raised from an old queen, say three or four years, and those raised from one in her first year. In looking over the various volumes of our old *Journal*, I see but little that has a direct bearing on the point. Among poultry breeders it is now pretty generally conceeded, that the largest and most healthy chickens are the product not of the pullet, but of the older hens. Such is contended also to be the case in

stock-raising, and even in the propagation of the different varieties of fruit, in fact many other and similar cases might be cited. Should this be an *established fact*, why should it be otherwise in queen raising?

It was my intention to have opened this question last season, with the hope of learning the views of careful and observing queen breeders. It was again brought to my mind by the re-perusal of a valuable article from the pen of the respected Langstroth, in Vol. 1, Page 92, AMERICAN BEE JOURNAL, (1861), as bearing directly on the question at issue. I will merely cite two instances which came under my observation in the season of 1873. I had a queen in her fourth year (the largest I have ever seen with one exception) which was so prolific, and her progency so industrious, that although she was a hybrid I concluded to breed from her. Not being satisfied with the drones in my own stocks, I took my nuclei to the apiary of a friend about two miles distant (Mr. J. E. Moore,) he having drones from an imported queen, there I bred a number of queens, crossing with Mr. M's drones, and in every instance they proved both prolific and easily handled, some of them even excelling the queen mother in point of prolificness and the markings of their worker progeny. This queen was a descendent of a queen I obtained of Mr. S. B. Parsons in 1861, (which fact called to mind the penning of this article, Mr. Langstroth having spoken of his Parson's queens) and while herself was quite dark her worker progeny were so well marked that they were pronounced by many bee keepers as pure, and some of her daughters were a beautiful orange color. As she had a curious history I may again refer to her.

Again, the same season (1873) I bred from a pure Italian queen the marking of whose bees I was much pleased with, (she being in her third year,) using the same precaution as to drones I had before observed, and with nearly similar results, the progeny of her queens were fully as industrious as these before spoken of, but no more easily handled, neither were her queens any more prolific than were those of the hybrid mother. The same season I bred from young Italian queens (in their first year) as I have in seasons before but I must say not with like satisfactory results.

The old and familiar adage may here be brought to mind "that two swallows never make a spring," therefore, the two favorable instances of breeding from old queens (I am not at all partial to four years but would say at least in the second or third year,) will not establish the truth of the theory of breeding only from old queens, but I ask in all candor, is it not enough by comparison of results to raise at least a doubt and open this question, if so, one object of my writing this article will at least have been attained, another, and the main object in view is to obtain the opinions or rather *the experience* of practical queen raisers on the subject. Can we not get the views of our Editors, Quinby, Alley, Dadant, Grimm, or indeed many others whose experience would be of great importance in the premises.

No one, I presume, will deny the assertion that to become a successful bee-keeper, to any considerable extent, one should be able to raise at least the queens he uses in his own apiary, if for no other reason than to have them just at the time they are wanted. If so, how shall he breed them? If there is any thing of advantage in the position we have taken it should be known. If it is only an idea, and a mistaken one at that, the sooner it is properly met and controverted the better for all concerned. But as I have already encroached too much upon space which might be more profitably occupied by others, I will close this already too extended communication. "R."

Beaver, Penn., Feb'y 24, 1875.

NOTE.—Since writing the above I have received Mr. Herbert A. Burch's "money in the apiary" in which I perceive he assumes the same position I have taken on the queen raising question.

For the American Bee Journal.

Wintering Bees.

I noticed in the JOURNAL an inquiry from C. D. Hubbard for Mr. Bidwell's, *new method of wintering bees*. Now I do not know what method Mr. Bidwell has, but after three years trial of my present method I am full satisfied it is just what I want. I have kept from thirty to forty stands of bees and have not lost a swarm from freezing, in the manner I am about to mention, and I have talked with others, and all have met with the same result. The beauty of it is, that it is the least trouble of any method I have ever tried, and affords the greatest safety to bees in wintering. It avoids the lugging up and down cellar and the moulding of the comb. It avoids the packing in straw and like material, in the various methods resorted to, to keep them from freezing, my present method will leave them on their summer stands all winter with perfect safety. This is done by a peculiar construction of the hives.

The hive is constructed with double

walls and an air chamber between, filled with straw, and the top and sides so constructed as to allow all moisture arising from the bees to escape, and at the same time keep the cold out. This keeps the bees warm and dry, and consequently lively and vigorous, to resist the inroads of insects in spring. The manner of its construction readily meets the approval of one's reason. But it will also convince by the best of all reasoning, *actual experience.* This hive has not been brought before the public as fast as it ought, owing to the poverty of the inventor not being able to properly advertise it. But if any of the readers of the BEE JOURNAL wants further information concerning it, they can obtain it by addressing Keyes & Finn, Clyde, Jasper Co. Iowa.

Marseilles, Ill. A. F. WALBRIDGE.

For the American Bee Journal.

Stray Thoughts.

At our convention, I failed to get up the interest on some points that I wished. The question of wintering was somewhat discussed, but we failed to agree half as well on that point as did that "Dozen of the same ilk" of Berlin, Wis. They agreed at least, that 45 degrees is about the right temperature to keep bees in winter. That agrees with my views already expressed. Many look at the surface of things only, and get the habit of deciding without due consideration. We do not get all the facts, which in time I hope we shall be enabled to. I wrote an essay on the subject, but did not get it ready for the press before cold weather. There had not been a winter since 1871 suited to throw more light on the subject than the present, either for or against my theory. In this section, not a day through Jan. and part of Dec. was warm enough for bees to fly. Much of the time below zero. From Feb. 7th to the 15th, there was but one morning above zero. Feb. 7th, 16 dg. below; 8th, 8 dg. below; 9th 8 dg. below; 10th, 12 dg. below; 11th a few degrees above; 12th 6 dg. below in morning and at sundown 14 dg; 13th 32 dg. below; 14th 16 dg. below; 15th 4 dg. below. Bees have withstood weather as cold as this in the open air without harm, when there have been warm days, either immediately before or after. But how they will withstand such a pull of two months, and the coldest at the least, we have yet to see.

One man from Saratoga Co., has just written me that his bees show signs of dysenterry now, 15th of Feb. If bees are lost in any section, I hope we shall get the temperature to which they have been exposed.

Another point in which we failed to get up the interest which I thought the importance of the subject demands is the fear of stings. I have worked some time for this without much progress. A few have got rid of the fear, and made bee-keepers. I cannot advise any one to keep bees that can think of nothing but stings, whenever he goes near them. Education on this subject should begin early. Teach children facts only, and perhaps the most disagreeable of these might be judiciously withheld, while the child is being trained in the methods of avoiding stings. I think I have helped some is this matter, in the smoker given to the public, even though my suggestions may not be fully carried out in regard to careful handling. Many persons are governed mostly by a desire to make money, and consequently are apt to attribute the same motive to the suggestion of others, hence my efforts to get people acquainted with bees are probably often thought to arise from a desire to sell my wares. I wish more persons having experience, would work in this field.

Could not bee-keeping be taught as a branch of practical education in some institutions, thus giving children a chance to receive the right kind of instruction. Perhaps Michigan would be central.

Standard frames is another point occupying considerable thought just now. I fear we shall never agree, because we have different interests. We have all heard of the old farmer who went to mill with wheat in one end of the bag, and a stone in the other, to balance when it was thrown across the horses back. He had done it, and his father had before him, and the method was sufficiently proved. Let us all look at it. See how it is proved.

I will speak of size of frames: Mr. A. wants shallow frames. "He gets more honey, he has tried it." Mr. B. wants small ones for extracting. Mr. C. wants deep frames, "Bees winter better. They have such in Russia." Mr. D. likes them about square, say 12 inches. Many more want light frames because they are lighter to handle, &c., &c. Now it is not likely we shall all want frames square because D. does, for we probably have not the same reasons for it that he has. I am making surplus boxes 5x6 inches square. I can put six of them inside of one large frame, I don't want the frame any less. This and other advantages, counterbalanced the inconvenience of handling large frames. When one has a smaller frame and to him there are no counterbalancing advantages in a larger one, it seems to me to be very

silly to change. We need not expect one pound more of honey in one than the other, providing we avoid extremes, and give our bees comb enough, and the same protection. Have we not lost time enough in discussing this question and gained nothing. Let each one use what is most convenient in his circumstances. The convenience of manipulating any sized frame can be studied to advantage, and much gained by experience. This together with training bees and men into quiet, wintering, and many other things which we do not yet half understand, may be discovered with advantage.

St. Johnsville, N. Y. M. QUINBY.

For the American Bee Journal.

Wintering Bees.

I have tried different plans for wintering bees for the last seven years, and I think that some winters require different treatment for successful results. This winter I commenced early in the fall, by feeding and doubling up till they were both strong in colony and stores, keeping them on their summer stands, with no upward ventilation and but little below. If any of the fraternity have had good or bad results in that way, I would like to hear from them. It is not convenient with many of limited means to prepare a suitable repository for wintering, and must rely on other ways of management. Please inform me in regard to a suit commenced several years since by Olis & Langstroth against H. A. King, for infringement on the Langstroth bee hive. Has the case ever been settled by the parties, and how? I have not learned of the result. Let us hear; long live the combined Bee Journals. H. W. WIXOM.

Mendota, Ill.

Sundry Items.

In my article page 61, last number of JOURNAL there is a typographical error that destroys the sense of the passage. In second paragraph sixth line, for *then cover*, read "then can."

I had better be a little more careful how I attack the masked Ku Klux, for some of them may be my old friends as 'Eccentric' appears to be. See page 64. This reminds me what happened one day many years ago when I was a boy ten years old. I went up stairs to dress in a hurry, and while in the act of putting on my vest I noticed a white sheet crawling through the door of the next room toward me; in a sudden fright and seeing nothing within reach for defence, I suddenly doubled my vest and gave it a blow with all my strength. The object suddenly rolled over, and out emerged the negro servant, rubbing his eyes and face, smarting from the blow I had given. Since then I could never stand masked objects.

I am sorry to hear reports of the bee disease again. I had hoped that from our close observations and experiments, during the past few years, we had got sight of a *remedy*, or at least a preventitive. But it now appears that our observation will go on with experiments a few years longer.

My bees to this day are all O. K. not a single stand *lost*. No disease of any sort. All healthy—only one weak stand and I fear that my bungling work with it last night, has destroyed it. Ah! I know your readers want to know what that bungling work was. So I will tell it for the warning of others, *to let bees alone at night*.

A few days ago I had put these bees in a nucleus with five frames, so as to nurse them until they got stronger, as they had a fine queen that I wished to save. Last night it began to turn cold and I had forgotten to take them in before dark; so went out with a candle to take them in but the wind would not allow the carrying of the candle. So I thought I would risk it in the dark, but I had hardly picked up the nucleus and proceeded three steps before *down went all in a mass*, breaking every comb out of the frames. I then got a light and got the bees back, but found the queen almost dead. Today, it being freezing, it is not prudent to open to see if I am minis a fine queen, for my attempt to carry bees in the dark. The cause of this stand getting so weak was, water leaking through top of hive before I was aware of it.

I would here say to all who don't know how I winter, that I use nothing but the quilts, and in some cases I stuff the caps with straw. I leave off the honey boards from many stands all winter. Thanks to J. Butler, of Jackson, Mich., for his grand honey board, I made several of them yesterday, after reading his article on page 57. I made my boxes just the size of honey board ⅞ thick by 3 in. wide, light pine and tacked a piece of woolen blanket on the bottom, and after filling with bran, tack any sort of cloth on the top; but for winter use I think I would prefer wheat or clover chaff, or very dry saw dust. I think the frames would be much less trouble than the quilts. We need not put anything else besides these frames on; the quilts are not always enough covering for the bees. I have tried the manure hot-bed around hives, but saw no benefit from it. I think these box quilts will prove very serviceable. I forgot to say that I keep a high close board fence on the north and west end of my

apiary, that effectually brakes the force the wind.

I would here ask friend Dadant if Edward Uhle of Switzerland, is in Italy—if so then Uhle's queen according to him are pure Italians. I have never received a queen from Uhle that was not a hybrid. Nesbit, Winder, and a few othere got Hybrids of Uhle. I have had but two imported queens to suit me in every respect, I can rear better ones, but still I am in favor of importing, and would not do anything to discourage it. Friend Dadant may have imported good ones. There is rascality somewhere but I rather think it is all with the European bee-keepers, sending us hybrids when they could have sent pure Italians. Can it be that they are ignorant of the test of purity. I always take the three yellow band as the most acceptable test of purity.

Lowell, Ky. R. M. ARGO.

Adulteration of Honey.

Seeing a good deal of discussion in the Bee Journals on the adulteration of honey, and being quite extensively engaged in raising honey for market, both box and extracted, I thought perhaps a few words to the many readers of the BEE JOURNAL who are engaged in the Apiarian business, might not amiss.

In the first place, if bee-keepers who are engaged in raising honey for market will take a little more pains to create a home market, instead of shipping all they raise to Chicago and other cities, to honey dealers, to have it adulterated and make five or six pounds out of one of honey or even more than that, and then for these honey men to ship it back where it was raised and sell it at double the price paid for it, looks like making a good deal from the honey raisers. Let every one who raises honey next summer see that every grocery is well supplied with good box and extracted honey, and there will be no trouble in selling all the honey at home. If the grocers will not buy it, ask the liberty to place it in their store, which no one will object to; allow them a commission on all sales from 10 to 15 per cent and there will be no chance for it to be fixed up with glucose, starch, and slippery-elm bark &c. Congress should make a law governing the adulteration of all articles for family use, placing a heavy fine or imprisonment or both for adulterating anything. There is no country on the face of the globe where adulteration business is carried on as it is in the United States. All kinds of spices, baking powder and other things too numerous to mention are shamefully "fixed up."

I put into winter quarters 165 good stocks of Italians, all right; but the hardest time is to come. I hope to come out all right; it looks as if the parties who write for the BEE JOURNAL were ashamed to have their place of business known. Let every one give their address in full, so that we may know where they live. WM. URIE.

Aurora, Ill.

American Bee Journal.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, MAY, 1875. No. 5.

American Bee Journal.

W. F. CLARKE,
Mrs. E. S. TUPPER, } EDITORS.

Seasonable Hints.

In this month, it is often best, if rapid increase is desired, to divide colonies. If the bees have been encouraged in brood rearing by feeding, and the heat of the hive economized, the bees are strong now—whether the season be late or early. We do not find bees, managed as we advise, dependent on early seasons.

We would advise all whose colonies are strong, and who desire to increase numbers as fast as possible, to commence in this month making new colonies. We would not do it in such a way as to weaken any hive materially. A comb of brood may be taken from one, a comb containing stores from another, and bees from a third. If a queen can be provided for every newly made colony, or a queen cell nearly ready to hatch and empty comb is at hand, the increase may be very rapid and with no danger of failure.

Those who wish to start nucleus hives, can do it best in this month, in this latitude.

There are various ways of doing this. The best one is this : Take a good Italian queen from the hive to which she belongs and put her in some other hive, from which the queen has been removed ; with the usual precautions.

The hive left queenless will at once build queen cells, and at this season of the year, a number may be expected. Leave the hive undisturbed until about the eighth day, then have in readiness several small hives each made to contain three or four frames, the same size as your large hives. Open your hive, ascertain how queen cells they are, and divide its contents among these small hives—putting in each a comb, containing at least one cell —more if you choose. Divide the brood combs and store combs among the small hives and if necessary supply one or more from other hives. Then take the old hive entirely away and set the small hives containing the frames of it close together where the old one stood, the entrance facing *the opposite way*. The bees disturbed by the unfamiliar appearance of things, will find the small hives, and as each has a cell and brood, they will soon settle to work. Care must be taken before night to see that each *small* hive has enough. If one has more than its share, change its place with that of a weaker one. You will then have two, three or four small hives in the place of one, and can keep them all the season rearing queens, or unite them again into one colony after they have served their purpose. There are other ways of starting a nucleus, which we will give hereafter.

Those who use surplus boxes will do well to put them on all strong colonies in this month ; though in most localities, bees do better in them before June.

A strong colony of bees has been known to build one hundred square inches of comb in twenty-four hours ; at that rate over sixty sheets of comb a foot square could be costructed in three months. The editor of the Annals of Bee Culture has had a report of a swarm that built nine sheets of comb ten by thirteen inches in ten days.

Office of the Iowa Board of Centennial Managers.

This is to certify that Mrs. Ellen Tupper of Des Moines Polk Co., being an expert in such articles as are enumerated in Group No. 34 of our Classification of Iowa Products, is duly appointed to act as Group Secretary in charge of her specialty, viz :

The Bee-Keeping Industry of the State, subject to such instructions as our Board may from time to time give in a written form.

Signed this 16th day of April 1875, and attested by the Seal of our Corporation.

ALEX. SHAW, Sec'y. S. H. MALLORY. President.

I, C. B. Carpenter, Governor of Iowa, hereby indorse the foregoing appointment, this 16th day of April 1875.

C. C. CARPENTER.

Centennial Exposition.

COMMENCING APRIL 19, AND ENDING OCT. 19, 1876.

The undersigned having been appointed, by the Iowa Board of Centennial Managers, Secretary of Group No, 34, accepts the appointment with the hope that every bee-keeper in the State will aid her in the work, by preparing for the exhibition any hives, extracts, bees, queens, or anything pertaining to the industry within reach. Also specimens of all honey-producing plants and seeds thereof which may be found in any portion of the State of Iowa, for exhibition at the coming celebration of One Hundredth Anniversary of the Nation, to be held at Philadelphia, Pa., 1876, I have the honor to request your co-operation in completing this Group, by the preparation and contribution of articles properly belonging within the scope thereof.

Any aid or information will be cheerfully furnished on application. As the Secretary of this Group is also a member of the committee appointed by the National Bee-Keepers Association, applications from any part of the country will be in order.

All articles shipped to my care will be properly labeled and transmitted to the Exposition, under the care and direction of the State Board of Centennial Managers. Such articles as the individual exhibitor may desire can be shipped direct to the care of the Director General of the Exposition, Philadelphia, Pa., under such rules as the Director General may prescribe. All persons who desire to be exhibitors will be supplied with blank applications for space upon applying to the undersigned. Applications must be made to the Director General of the exposition. For the purpose of keeping a record of Iowa applications, they will be signed in duplicate, one of which will be forwarded to the Director General, Philadelphia, and one to the Secretary of Iowa State Board of Centenial Managers, Des Moines, Iowa.

Trusting that State and local pride will induce you to give us your hearty co-operation I shall expect, without further solicitation, to secure from you, on or before the 1st day of December, 1875, a specimen of such articles as above enumerated, all of which will be duly acknowledged, and ordinary care exercised ; but the loss of property by the accidents of transportation, by fine, or by the dispensations of Providence, will in no wise subject the undersigned to damages.

Respectfully,

ELLEN S. TUPPER.
Sec'y. Group 34.

Des Moines, Iowa.

From the Practical Farmer.

Uses of Wool in the Apiary.

For the last four years we have used *wool* quite largely for various purposes in our apiary. We use nothing else for stopping up our queen cages, rolling it for this purpose into a tight wad. The bees cannot gnaw it away, and seldom propolise it. We shut up all our nuclei, when first formed, with wool. It can be crowded into place in a moment, admits air, and is easily removed. If we wish for any purpose to shut up a hive, we use wool. In the working season, we keep one "pocket full of wool," and know nothing of the vexations we experienced when using wire-cloth. Occasionally a few bees are caught in the fibres of the wool, but they are for the most part very shy of it, and are quite indisposed to commit *felo de se*, by hanging themselves in its meshes. Robbers will very quickly retreat from a hive well wooled. If we use the words *to wool* and *unwool* a hive or nucleus, instead of to shut up or open the entrance, our readers will understand what we mean.

L. L. LANGSTROTH.

PERSONAL.—This heading, over my signature, may remind some, of my personals in the AMERICAN BEE JOURNAL in 1873. With no intention of reviving past animosities, I desire to say that soon after these personals appeared, I regretted some things in them. For the first time in my life, instead of a statement of facts with what seemed to me the necessary conclusions from them, I used bitter epithets and invectives. Coming from a man of my age and profession this was the less excusable. Perhaps

I never lost so good an opportunity of showing the best way of conducting such controversies as we deem necessary in defence of our rights.

About two years ago I personally expressed to Mr. H. A. King, my regret for the invidious comparisons in which I had indulged, and my intention of withdrawing them as publicly as they were made. Able again to use my pen, I am glad to carry out this intention. If my example has encouraged the acrimoniousness with which questions have been discused, and controversies carried on among American Bee Keepers, I hope this personal may contribute somewhat to soften such needless asperities.

April 23rd, 1875. L. L. LANGSTROTH.

Voices from Among the Hives.

H. GOODLANDER, Leesburg, Ind, writes; "Bees can be wintered just as safely, and more easily than any other stock. The material from which a hive is made, has a great influence on the health of the bee."

ELIAS HERSHEY, Leaman Place, Pa., writes: "I wintered 27 stands out of doors, without protection, except blankets on top of frames, and they all came out strong, and are ready for work as soon as the blossoms come."

R. R. MURPHY, Fulton, Ill., writes; "About March 20th, some one sent me a registered letter, but the Post Office was burglarized on the 25th. The safe blown open, and the building fired. Nothing was saved. This is the reason why I have not been able to answer that letter."

JOHN DIVEKEY, Aurora, Ill., writes; "I put my bees—43 swarms—in a basement on the 15th of Nov. They came out all strong and healthy about the middle of March without loss. They had no flight for 4 months. They were carrying natural Pollen on the 4th of April. The winter here was very severe, but the opening of Spring is exceedingly favorable. Long may your valuable Bee Journal live and prosper."

Dr. N. P. ALLEN, Smith's Grove, Ky., writes; "I have succeeded in wintering my bees in Langstroth hive on summer stands without losing a single stock. My bees are in fine condition and have been gathering from the fruit blossoms for the last week. I had eleven in top story, one week ago. I have four new idea hives. I like them very much. I see by the Journal that they are not so regarded by some, but my experience is that we can raise more bees by inserting empty comb in the center of brood-nest. Can enlarge the brood-nest to double the size, it is ordinary, and that they will come out in the spring with more bees than the Langstroth hive, and with more honey. I hope to be able to make a good report of this season's operations."

H. M. NOBLE, Mount Pleasant, Iowa, writes: "My bees have wintered better than for the past three winters. I had 20 swarms last fall. I put 5 of the poorest in a cave and one died. I put 15 in the cellar, and as some of them got the dysentery I made a box 3½ ft long and put a window sash in one end, and one on the top, leaving one of the sash that I could open so that I could put my arms in and take off the quilt or honey board. I took some of the frames out and set them on the out side of the hive and cleaned out the dead bees, &c. The most of my bees came through the winter healthy. I got a queen one year ago last July; said to be from an imported mother. I think she is a regular Egyptian from what I have read about them. They have the grit; they work well, breed well, and sting like a demon."

JAS. B. WILSON, Des Moines, Iowa writes: "The winter that has just passed, has been a very hard one in Iowa. I had 4 colonies of bees to go into winter quarters last fall. My bees have been on their summer stands for the past 4 winters, and I have not lost any by disease or freezing, during that time. During the winter, any day that the sun shined or was a little warmer than other days, they would fly out as in summer.

I have not had to feed them this winter or spring, as they laid up enough feed in the lower combs for their own use during the whole winter. I have used the "Finn Porus Wall Hive," ever since I commenced keeping bees. I am not afraid to recommend it to apiarians, as the only one that their bees can be safe in, during the summer or winter. Eace colony is so strong in the spring and summer that moths or robbers dare not venture near them."

WM. H. S. GROUT, Poland Center, N. Y., writes:—"The following is what I have done the past season with five, 32 (Kidder) frame Gallup hives and Italian bees:

No.	May 30.	June 11.	June 21.	June 27.	July 3.	July 9.	July 18.	July 25.	Aug. 4.	Total per Hive.
1	7¼	3¾	20¼	31½	35¼	53	52½	73	27½	304
2	7½	3½	12¼	26¾	37	36½	34	60	24½	242
3	6¼	4¼	18¼	32¼	43¼	44	31	90	27	296½
4	0	2	16	23¾	19¼	48	38	65	18	229¼
5	6	4	19	44¾	45¼	43½	35	60	13	270½
T.	27	17½	85¾	150	180	225	190	348	110	1,342
	Spring Honey.		Raspberry and Clover.				Basswood.			

Average yield per hive, 268 2-5 lbs.

I think the Gallup hive is just the thing to work bees in, for extracted honey. It is more convenient than two-story hives, and I think will yield better. When you get all the light honey, you have swarms that will gather enough fall honey to winter on, and strong enough to winter on their summer stands. At least that is my experience. Mine having gathered enough for winter for the past three years. The supply is principally from smart-weed. The long hives are *not* humbug, practically, if my experience amounts to anything; and I believe that I can get more honey from them than I can from the same number of combs in small hives. If 'Eccentric' will try them in a good season he may think better of them, and conclude that they are not such a humbug after all. He should remember that strong swarms gather the honey, and stand a better chance to winter than if they were divided up."

ED. WELLINGTON, Rivertown, Iowa, writes:—"Our long and severe winter is now past. The bee-keeper now knows how many of his stocks of bees has been consumed by it. I came out better with mine than I expected, and as good as the

most of my neighbors. I lost two very light stocks that only had a pint of bees or less; the loss of which I lay to not having upward ventilation—and another lately. We hsd a fine warm spell. The bees flew finely, then came a severe cold snap, which lasted a week, when it again turned warm. I found one of my weak stocks had clustered in empty comb, away from their supplies, and had passed in their cheeks, and were dead. Making a total of 4 out of 23. Those that I had down 5 feet in the ground covered over with boards and straw, froze as bad as those that I had on top of the ground surrounded with straw. I know of 19 stocks that were wintered out doors, ten with tight honey boards on, and nine with quilts. The result was, that all with the quilts on were alive, and nine out of the ten that had on tight honey boards were dead. The other was a very strong stock in the fall, now it is very weak and troubled by robbers. My bees are now working finely on rye flour."

ARCHIBALD SMITH, Roswell, Cobb Co., Georgia, writes :—"I wrote you a few notes of experience. I *survived* the summer with two hives, large size, single story, movable frames, about a quart of bees in each, but little honey or comb, and had to take out much comb infested by moth. So little honey was made, that I had to feed ; and looked into the hives the first week in January, when I found but from 4 to 6 lbs. honey in each. (The winter *here* has been mild enough to afford the bees a flight every week or two). About the 15th of June, I put a little sugar syrup into each hive, and soon finding great activity among the bees, I examined them and found that the bees from the larger hive were *robbing* the others ; but the *peculiarity* was, that there was *no fighting* only great activity, but as there were no flowers, I looked closely until I found they were passing from hive to hive. I have continued to feed ; but leave only one hive open at a time. The question here arises, and I want your readers to investigate ; does not this account for much loss, in the spring, of swarms just put out of winter quarters, before there are flowers enough to supply the large demands of breeding ? And does it not also account for the great increase of some hives ?

JOHN HUGH MCDOWELL, Red Fork, Ark. writes : "Bees do well here, never die in winter from cold. I have had five natural swarms this spring from one hive, other hives all sent out more or less swarms. I would like to have a partner who understands bee culture, would *give* him a half interest. I use Adair's and Novice's hives."

ALFRED CHAPMAN, New Cumberland, W. Va., writes : "It has been exceedingly cold, but my bees have wintered very well on their summer stands. I have a shed roof over them and packed straw all around them, but in front. But they consumed much more honey than those in a cellar or house."

In the spring of 1871, we bought a farm remote from neighbors a mile or nearly so and on it was a swarm of bees which the owner did not care to remove, never having received any benefit from them, and in a year or so they were given to us. They were in an old decayed box hive, they swarmed the first season in my absence, a neighbor hived them in another old box hive, and in the following spring they were all dead.

We put our new swarms into an old fashioned hive, just to make trial and see if they would live and thrive. It was in June, I think. If they lived through the winter, we intended to get a moveable frame hive. Heard of Kidden, of Burlington, Last spring all were lively in both hives, and I sent for a patent hive, but they swarmed before it came to hand and I was obliged to put them in an improved, but still a box hive. I had not *learned* that I *must not* hive them on the stand. After they seemed quiet, I went out to see, and the hive was empty. Fortunately, they had gone home, instead of to the woods, as our swarm did the previous year. Now what shall we novices do next. My right hand was large enough for two, from four stings though gloved, bee-veiled, &c., for the little hive was full, and the weather hot. We studied and mustered courage to raise the hive and set another under it, and they accepted it and went to work in it. They built combs and it seemed to me as though were two separate families or swarms. The first year I had one ten pound box of honey, last year probably between forty and fifty lbs. of very nice honey. One box still remains in the chamber of one hive. They are in the open field protected partially by boards and pine boughs. MARY R. SANDERSON.

We send you the January JOURNAL and think you will find it just what you need. We print your letter without your leave, because we like to show others interested how one more went to work. You are on the right track and we hope will not loose your bees. We know if you read the JOURNAL you will learn how to manage them so as not to dread their sting, but on the contrary, will enjoy working with them.

Your bees that "went home" did not do so because "you hived them on the stand," but they lost their queen and therefore returned to their old hive. Putting another hive under the old one, was the best thing you could do under the circumstances.

☞ We have a lot of Adair's Annals of Bee Culture for 1870 slightly damaged, on hand—which we will sell for 10 cents each, Postage 4 cents.

☞ The Southern Ky., Bee-Keepers' Association will meet at the residence of R. A. Alexander, on Monday the 19th of May next, and all persons interested in the culture of the honey-bee are invited to be present. We hope some of our Northern Brethren who are posted in Scientific Bee-Culture will attend or send us communications, bee-hives, honey-boxes, &c., for exhibition. They will be cared for and put upon exhibition by the President.

H. W. SANDERS, Secretary. DR. N. P. ALLEN. President.

Correspondence.

Our Plan of Wintering.

As many of our Bee Keeping friends in different parts of our country are in many cases, yearly being made sorrowful through the sad inroads made upon their pets—the beautiful Italians—and we, having been *blessed* by a course of management, which has not only given us our number of colonies in full, in the beginning of spring, in good shape, but has carried them safely through the *severe* trial put upon them, by our cold and backward springs, of which so many have cause to remember, and hoping to benefit some one or more of our suffering friends, we submit our plan of proceedure, to-wit:

In the first place, our bees are wintered in the cellar, under the main part of the house, over which there is a fire but very few times during winter. Cellar 18x22, in clay; bee room, 9x12, partitioned off in one corner, between joists over-head we have stuffed with straw, held in place by a few lath tacked on, the partitioned side is also studded and packed with straw in same manner, while one side and end are stone wall, over all the portion stuffed with straw, we have tacked a covering of building paper, shelves arranged around the sides and one end, none coming *nearer* than *two* feet of cellar-bottom, we thus, you will see, have provided an absorbant, by which all dampness is absorbed. As a consequence, our rooms are as dry as a flint. Here let us say, were we going to arrange *an other room* in the cellar, for bees, would manage to have as *little* of the *stone-wall* in it as possible, for we notice, is there an uneasy colony, or one the least inclined to be diseased, or one weaker than the average in Spring 'tis sure to be, or have come from the stone-wall side, and whenever we were compelled to have a portion of it, would arrange to not let our hives come nearer than 12 to 18 inches. So much for cellars.

About 10th to 15th of Sept., or immediately after buckwheat season closes, which winds up the honey season with us. (During the flow of fall honey, should you not be sure your bees would store enough for their winter's use, do not put off supplying them with a safe amount, either honey or syrup, later than above date as the earlier theh get their stores, the sooner will they cap themselves and as a consequence the better will they winter.) We carefully examine each stock and esitmate their stores and if any are short, immediately feed them on Coffee A. sugar syrup made 20 pounds to the gallon of water, until they have from 20 to 30 lbs. stores each, according to strength of colony. They are then left to themselves, to be as quiet as may be. As the cool nights of last Sept. and Oct. come on, we contract the entrance to keep them warm. Early in Oct., choosing a day in which the bees are flying lively, we open a hive and set frames in an empty one previously provided for the purpose, then proceed to tack a quilt (made of sheeting lined with a thin layer of batting, quilts made for summer use,) on each of the two sides of the hive, doubling over and to the inside, at top of hive, sufficient of the quilt to let it just reach bottom on back side, and elevated enough on front to allow the bees free use of entrance, use three 8 oz. tacks at top and one at bottom, driving only half way in, so they may be easily removed in taking off quilts. Your hive is now ready for the bees, which return, and when returning examine and see if they have as many as two empty combs in center of hive, if not supply them, placing a frame of honey or syrup between them. If they have unsealed stores, see that they are placed nearest the bees and the sealed removed toward end of hive, by this means the unsealed stores are first used up and you will have no soured stores to give your bees that fatal disease in spring, known as dysentery. Spread combs a little in center of hive, about where clustering is, and if necessary so to do, remove 1 to 3 frames, by a half inch strip across the top of frame and place on quilt, and your bees are ready to let alone, until time of setting away. You will see upon replacing bees in hive, after lining, that the frames do not go to place as easily as before, but by placing one end in position you can easily bring other to place, when you will find your frames are as firmly held to place as though made close fitting. By this process of lining, we not only do away with that great objection to frame hives for winter use, the dead air space around frames, chilling bees and combs, but we enclose our bees in a nice warm nest, surrounded with material which absorbs all dampness and keeps them as dry as can be. The first cold snap in Nov., we prepare to set them in winter quarters by setting them off bottom board, and cleaning that of all litter, and placing a frame, made of inch stuff, in square, on bottom board, then place, have back resting on the frame, take up bottom brood and gently carry them to their place in cellar, setting brood and hive on shelf, close door, and above all let them alone,

only occasionally looking in at door to see that the rats or any thing else have disturbed quilts. Our cellar has no ventilation, except what it gets when members of the family go into it for vegetables, mercury usually ranges from 40° to 45°, perhaps for a short time, dropping once or twice in winter to 35 degrees. Well Mr. Editor we have "spun our say," out to a greater length than any idea of at start.

We trust you will pardon us if we have tried your patience, but having once been beginners ourselves we realize how necessary are the details to assist in understanding, after all, success depends more on attending to the details and giving your attention closely, than in a mere attention to general principles alone.

Believing as we do, that there is more of a science in successfully "springing" an apiary than in wintering same, we will, if you so desire, give you an item on our course of spring treatment.

Dundee, Ill. J. OATMAN & Co.

For the American Bee Journal.

Marketing Honey.

I find the best method of marketing my honey, both comb and extracted is to sell direct to the consumer or retail dealer, and not send to honey dealers for them to adulterate. Last year I put a half barrel of extracted and about 50 lbs of comb-honey into my spring wagon, and went among the consumers and sold to them at 12½ to 15 cts. per. lb. for extracted and 25 cts. for comb honey, and in a short time I sold all my extracted honey, and could have sold as much more in about a week, as the people found out that it was genuine honey and not glucose, sugar syrup, &c., with a little honey added, as is most of the so-called honey sent out by the city honey dealers, and besides the spurious honey is so high in price that it is beyond the reach of many people that would like honey.

If the producer would take a little time and trouble to furnish the consumer with the genuine honey at a moderate price, and thus get a market established, he will be surprised at the amount he could sell and not be swindled out of his money by honey dealers. Parties that only got a few pounds of me last year, are beginning to speak for 50 to 150 lbs of ext honey, and the prospect is that I cannot half supply the demand, another year, without an extraordinary yield of honey, and I will have 80 colonies (if I do not lose any) to commence the season with. By the producer selling his own honey at a reasonable price to the consumer, he will drive out all of the doctored honey, as the retail grocers will not handle it. One of our grocery men got some from Chicago, put up last year, and it soured on his hands. He says, no more Chicago honey for him, as he thinks the only honey in it was what little some small pieces of comb contained that was put in and pressed against the glass.

I sold of my own raising last year ext. honey 1700 lbs. comb honey 300 pounds, and comb honey I bought from a man six miles from me, 1000 pounds.

Fulton, Ill. R. R. MURPHY.

For the American Bee Journal.

Tall and Shallow Frames.

As Mr. R. J. Colburn takes exception to the shallow frame, in the March number, page 55, I would like to give some of my experience with tall and shallow frames. Mr. Colburn seems to reason a good deal from theory; but I find in practice, they pay but little attention to keeping brood in an exact circle, but have a wonderful adaptability to circumstances, and will place their brood where they can care for it and keep it warm the easiest. If stocks come out all strong, and keep so through the spring, they will probably breed up well enough in most any kind of hive, but if they get reduced down to a mere handful, as many did the last two seasons, that is what tests the shape of the frame for breeding up. The frames generally used here, takes a comb about 8 inches deep by 17 inches long, and we think that we don't want a comb that will breed up better in the spring; I have used the same frame stood on end, that is 17 inches deep, and found that when I got a stock reduced in those early in the season, I was completely swamped, no amount of cuddling would induce them to breed bees of any consequence, till hot weather and warm nights, they would have a little brood in the top end of two or three combs, and the only way they could spread their brood was to carry it downward, and they could not do that, as they were not numerous enough to carry the heat down. The same amount of brood and bees, started in the middle of the shallow frame, would increase to quite a nice colony, by the time the tall one would begin to do anything. In the long shallow frame, they will spread the brood each way, along the tops of two or three frames, and they have the heat with them, and will raise a great many more bees than they will in the tall one. With strong stocks, or in warm weather, the

tall comb will breed as many bees as the other probably.

I have never used a comb 12 by 12, but have used one 8 inches deep by 12, and found when bees were reduced in spring in that, comb 8 by 17 inches was far superior, from the fact, that bees will spread their brood along the top of a long comb, in weather, when they cannot be induced to spread it latterly across space into another comb. I am now using a comb 10 by 12 inches, and don't think it breeds up as well with weak stocks as the shallow frame, but can't tell why, unless it is because we leave out the lower cold strata entirely, leaving the hive so much warmer. My experience with pure Italians for box honey, corroborates Mr. Butler's exactly, on page 56. Can't our present bee, be improved by judicious selections in breeding? J. P. MOORE.

Binghamton, N. Y.

For the American Bee Journal.

Missouri Bee Killer, &c.

On page 36, Feb. No. present Vol., Mr. Sonne's article calls for observers to help him to awaken an interest of all bee-keepers to the importance of it. I have been acquainted with those insects for four or five years here in this section of Southwest Missouri, but never knew them in Central Indiana or the Alleghany Mountains. In Northern West Virginia, where I have formerly lived, I have seen them destroying many of my bees, and other insects and sometimes each other in the same manner. They are very stupid and dull in cool or rainy weather, and appear to be much more numerous in dry weather and when the sun shines very hot. This country seems to be a natural home for them and there are many of them here, and I think they are on the increase. How much they may interfere with our apiary in the future I cannot tell. I know they kill many of my bees but I cannot see that my colonies are weakened by them. My bees are kept at a good breeding stage all summer.

Mr. Sonne speaks of there being plenty of flowers, and that his bees would not bring honey in, now we have many times past had plenty of flowers for honey; but no honey, because the weather was not such that the flowers would secret honey. As yet, the cold winds and rains early in spring, when peach and early bloom comes are more of a drawback to me than the Missouri bee-killer.

My bees are in prime order on summer stands. E. LISTON.

Virgil City, Cedar Co., Mo.

For the American Bee Journal.

Honey Granulating.

In the February number, on page 36, Mr. Charles Dadant says: "That if they (the readers) on the market, from December to June, a so-called honey in liquid condition, they can, with absolute certainty, declare it a sophisticated honey, or at least a honey which, by boiling, or by pure mixture, has lost its character as a true and pure article."

That may be the case, where he lives or in any cold country, and cold may be the cause of honey granulating there, but it is not the case here. I am justified in thinking, that honey from certain flowers has a greater tendency to candy, than that from others, and possibly if both are extracted or strained together, it will all granulate within a short time. I bought in June last, one hundred stands of bees, and commenced to extract on the 27th of July. The honey of that extracting was gathered from white sage, sumac and other mountain flowers. After three or four weeks I extracted again. A great deal of that was gathered from a blue flower, which we here call flea weed, (it smells somewhat like vinegar, but rather strong and disagreeable), which came into bloom after the first extracting. Both lots were treated alike, sealed up in five gallon tin cans, placed out doors in the warm sunshine and stood there for several weeks. I use a great deal of honey myself, have for months, had a can of the first extracting open, only covered with a piece of thin paper to exclude flies, and it is now as liquid as when extracted, only thicker on account of lower temperature. Another can of the same lot, soddered up air-tight, was on examination a short time ago like the one mentioned, and a sample of the same in a two ounce bottle simply corked shows no signs whatever of granulating.

On the other hand, every drop of the second extracting became within two months as solid as lard. Cold could not have done it, for it was in the latter part of summer or beginning of fall, and it is even in winter seldom cold enough here, where I live, in the mouth of a cannon, to find in the morning a sheet of ice one sixteenth of an inch thick. I am therefore inclined to think, that the honey from certain flowers, and particularly from this flea weed, *will* granulate, while that from others *may* under certain circumstances do so, and that a mixture of both will granulate within a certain time, dependent on the proportion of the two kinds of honey.

I will only add, that I have five years

experience in bee keeping, and that what I have stated in regard to last year holds good for the former four.

As people here prefer liquid honey to granulated, I had to melt all my honey of the last extracting.

On page 28, February number, you say: "There is an increasing demand there for honey." Please inform us, who will buy and at what price and in what size and kind of packages. We have always had trouble with our honey candying after it was shipped, and have had to take a considerably lower price on that account. Should be glad to find a market for the candied honey, which, as you say must be the pure article, although *our* liquid honey also is pure, even if remaining liquid for years.

WM. MUTH-RASMUSSEN.

Los Angelos, Cal., Feb. 22, '75.

For the American Bee Journal.

To Double the Capacity of Hives.

As the matter published in the January No. was designed simply as an explanation of a method, which I accidentally hit upon several years ago, of getting bees to build straight combs; I try to say, in addition, that the method consists in crowding the hive with bees, to double its capacity, (according to ordinary ideas), by means of a division board or, what is better, whenever possible, uniting swarms.

I fill the hive so full that in hot weather some bees will hang out the first night. I prefer the latter way of doing this, for several reasons: I secure not only straight, but mainly *worker* combs; avoid large increase of stocks; am apt to get a big lot of box honey; and avoid the great amount of labor and fussing, (mentioned in explanation published), which may be properly characterized as an application of the old laborious method to the new, necessitated by want of bees enough to properly apply the latter. I had observed that when I filled a hive by doubling, there was little trouble from drone comb in comparison with what there was, when I had to put in empty frames between others as guides, also I thought an increased tendency to build worker comb in boxes, and also a liability of the queen to lay drone comb in the boxes, both of which I attributed to the treatment mentioned, considering them as objections; the former, to be remedied by using only store or drone comb for guides in boxes, the latter, as the result of a want of drone comb below. But on reflection, I am inclined to think it may impart at least, be owing to my exceedingly shallow frames, they being but little over 5½ inches deep.

I had observed thus far, but had not thought, of this crowding, to get them to build worker combs exclusively, until I saw friend Dean's method of securing all worker combs, published in August No. of *Gleanings*, when it immediately occurred to me that his and my measures each corroborated the other. Novice saw the point, for in publishing, "How to secure straight combs everytime," he comments: "The pricipal is essentially the one friend Dean works on." *Gleanings*, Vol. 2, page 160. So it seems "the same stone kills both birds."

Douglass, Mich. H. HUDSON.

Size of Hives.

As to the size and shape of hives, I think we should be governed by the climate we live in. All must use their judgment in the matter. As for me, I like deep frames.

My 16 stands of bees are all right, on their summer stands, though one only had three cards last fall, and was very weak. Now it is as lively as any of them, having bees enough to cover one comb 12x13.

I can open any of my hives, without fear of stings without the aid of smoke or anything else. As no stranger could do this, I argue that my bees know me. Recently I gave my bees some flour, and stood in their course, about 10 rods off, they lit on me, and then went to the flour. I tried the same with a neighbor's bees, but they took no notice of me. If bees do not know their master, why this difference?

Wooster, Ohio. D. H. OGDEN.

For the American Bee Journal.

The Hive I Use.

Having experimented with boxes for comb honey for many years, I conclude the one I now use is the best that has come under my observation.

And if you think it of any value to the bee fraternity, you may give it an insertion in the JOURNAL.

I take thin lumber ¼ or ⅝ inch thick, cut out two pieces four inches wide, 12½ long, than cut out nine slats 13½ long, and ⅞ wide, then nail the slats on one edge of each of the two sides, leaving a space between the slats of ½ inch. Then draw lines with a square from each slat across the two sides, and then nail on nine other slats opposite to the first. In putting on the last nine slats use an awl and

shoemaker's pegs, so that they can be taken off easily with the hand. Close the ends with slats ½ inch square with spaces as in top and bottom, put on with pegs also.

The vacancies should correspond with those of the frames. Boxes can be put on top of each other. One filled with honey and bees should be raised up, and the empty one slipped under and left until the bees work in the lower comb.

The advantages are: the conveniences of taking out the honey, and the perfect view of the whole inside without the use of glass. I had two boxes filled the last season 16 lbs. each, would have had more, but had only two swarms to start with, and that in the latter part of May.

W. W. Moore.

Gillett's Grove, Clay Co., Iowa.

Reply to Dadant.

Dadant, in the March No. of the A. B. J., says: In the last convention of the N. B. K. A., a few bee-keepers have fired at the importation of bees. He says, A. Benedict was the first to begin the fire, and says, he (A. B) said that he supposed that there were hybrid bees in Italy. Upon reading this, I wrote to him (me) to know on what he had based his supposition. But in his answer he could give nothing definite. He had seen so called imported queens, that were undoubtedly impure; and then says, but for himself (meaning me) all the imported queens he had received were pure. Now if D., will read my letter again, he will see that I did not write him that all the imported queens I received were pure, but far from it. If I am any judge, I have received queens, imported ones, that produced one and two banded workers; and I have received queens that would produce queens, that if mated with black drones would produce a majority of three banded workers; and I have received queens, if there progeny mated with black drones they would produce a majority of black bees. Now, friend D., why is this? If one is pure, so is the other.

If I am not much mistaken, our friend D. in an article written a few years back, for one of the Bee Journals, claimed that there was a great difference in the color of the bees in different districts in Italy. He claimed that the dark ones were claimed to be the best bees; the light colored not so good. I sent friend Dadant some money a year or so ago, requesting him to procure me a queen that produced as light bees as could be found in Italy; but he failed to go, and sent back the money. The best and lightest colored bees I ever saw, were produced from one of six queens purchased of S. B. Parsons, Flushing, Long Island, several years ago. Parsons had imported a full colony from Italy; this colony was carried over the mountains on mens' shoulders. Undoubtedly this colony was selected for its bright color. The above queen produced workers almost white; the drones were of a dark red color; to stand a few paces from the hive and look at the bees, they appear almost white. And the drones look as if they were entirely black, but on close inspection, they were very glossy and redish in color.

These bees looked very singular, basking in the sunlight, in front of the hive, the bees so light and the drones so dark, they were readily distinguished, the one from the other. I have never seen but the one queen that procuced exactly such bees.

Now, my opinion is, that just such bees can be found in Italy. I am not down on importing bees. But I am in favor of a careful and judicious selection of the queen.

I hope friend Dadant will attend our convention, and if we say anything that is not right, he can there correct it, and tell us all about Italian bees.

Aaron Benedict.

Bennington, Ohio.

For the American Bee Journal.

How to Make Hives.

For the benefit of those who do not know how to make bee hives, and who would rather make them than to buy, I will try to give directions as plain as I can.

In the first place get your lumber dressed on both sides to exactly ⅞ of an inch. Use lumber just 12 inches wide for the hive, the frames should run from front to rear; the front and back boards are 12x16 with a rabbett ⅜x⅞ across the ends, and ⅜x⅞ across the top edge for the frames, the side boards are 12x15½, nail on a ⅜ board for bottom and clamp, and one with a ⅞ clamp [on top] for cover. Have an extra wide cover to shade the hive in hot weather, make a stand four inches high, with the front board slanting to form an alighting board or "down step."

The frames are 11x14, top and end bars are 7-16 inches thick, bottom ¼, top bar is 15⅜ long, ends 10¼, bottom 14 inches long.

For comb honey place a case six inches deep flat upon the hive, except that the end bars are only five inches long, of course the cover or honey board must be removed and placed upon the super.

Don't think of using extra rabbetts or bevels or quilts; its all nonsense, I think, except in Spring. Quilts or straw mats are then an advantage. For extracted honey use the ⅝ bottom in upper hive, or not, as you prefer. I prefer the board between sections. For comb honey, don't think of using boxes or a honey board below your comb, I and others have seen the folly of it in cold weather. Section frames for surplus are good, but they are more bother than the common surplus, so I think it better to discard them and never more think of them.

The above described hive can be made for $2.00, or cut ready to mail for $1.50 or less by the dozen. R. S. BECKTELL.

New Buffalo, Mich.

A Closing Word With Mrs. L. Harrison.

As an offensively personal article published by Mrs. L. Harrison, some time ago, in the *Prairie Farmer*, appears word for word, in the April number of the AMERICAN BEE JOURNAL, as a communication to the JOURNAL, I ask you, in single justice, to make room for a portion of my reply as published in the *Prairie Farmer*, as follows:

> The ill-natured epithets and redundance of adjectives in your last week's issue, over the above named title, do not constitute argument. As to my logic, let me say to my profound logician-critic that to "put language into my mouth which I was never guilty of" is as she rightly interprets, to misquote me; to "otherwise" falsify "my statement," is to do so in her own language, without quotation marks. Further that "on that subject," (relation of honey bee to horticulture) is quite a different thing from "on that subject at the last meeting of the Illinois State Horticultural Society"—this last being her language, not mine. * * * I care not to waste your space in a war of words with Mrs. L. Harrison, and will simply say to her in conclusion that *were* she "a man," my pen would not be so guarded. As for her contempt, judging from both the matter and manner of her recent communications, I feel more honored by it than I should by her esteem.

The transactions of the Illinois State Horticultural Society, for 1874, which contains a report of the discussion which gave rise to this unpleasant controversy, are just published. I saw no proofs of this report which, with few exceptions, is as correct a statement of my remarks, as could well be made in so condensed a form; and those of your readers who can refer to it will judge for themselves whether Mrs. Harrison's communication in your February number was warranted or not.

In conclusion let me say to Mrs. H. that she is mistaken in supposing that I have any "spite" to vent against her or any one else. But when unjustly assailed and misrepresented, I am apt to defend myself, even against a lady—however much I may regret the occasion.

St. Louis, Mo. C. V. RILEY.

Foul Brood.

Having had some experience with this disease for the past five years, it occurred to me that my experiments might be of some value to others; I had noticed for several years, a few cells of foul brood, here and there in the combs, and had been in the habit of cutting them out, but was not aware at the time that it was foul brood, but now recognize it as the genuine disease in a mild form.

In the fall of 1870, the bees filled up the combs late in the season with watery honey, mostly from fireweed. Cold weather came on suddenly, and the bees were unable to cap it over. The result was, that most of the swarm had the dysentery, and were lost during the winter. Some may say that if they had been properly housed, they would have come out all right. This, I am inclined to doubt, as one of my neighbors lost fifty swarms in a house constructed for the purpose, when they had always done well before. In the spring the uncapped honey soured, and the pollen fermented as though yeast had been put into it. The combs were used the next season to increase the size of the hives, and became the seat of the disease, which was spread by changing combs, through all the swarms. The remedies resorted to this season, were to take away the combs most affected and replace with empty combs from the hives when the bees had died the winter previous. I learned in the operation, that while the first brood hatched in combs which had contained sound honey or fermented pollen was badly diseased; brood in combs that had been filled with capped honey was but slightly affected until the third set of eggs was hatched. All the honey was extracted from these combs before they were put into the hives. From two swarms which were badly diseased, the combs were all taken away, and the bees put into new hives, and treated as new swarms. One swarm was fed with honey extracted from the diseased combs, and at the end of four weeks, was found to be the worst diseased swarm in the apiary. There was not live brood enough to be worth saving, and the combs were again taken away, and the bees put into a clean hive as before, together with the bees that had hatched from the old combs. They were fed with sugar and water, to give them a start, and in the fall were examined and found free from any signs of disease. The other swarm from which the combs were taken, showed no signs of infection. The old combs with a few bees to take care of the healthy brood were left in the old hive. The badly diseased combs were destroyed as soon as the brood was hatched. Combs that were clean were left for the bees to store honey in. This swarm though not strong, stored a little over one hundred pounds of extracted honey. The bees were kept without a queen, and allowed to wear themselves out gathering honey, and as soon as they were so weak that there was danger of their being robbed, the combs were all taken away, honey extracted, and

combs destroyed. The few bees left were given to swarms, undergoing treatment, or destroyed as circumstances dictated.

The old swarms treated as new, this year, and the succeeding years, have come out free from infection with the one exception spoken of above. Unfortunately for my experiments both these swarms were lost the winter following, and I was left with none but the old stocks that had more or less foul brood in them. The next spring I kept the disease in check until swarming time, by vaporizing the combs with hyposulphite of soda. Then removed the combs and treated the same as the year before, with the exception of trying to cleans the cells as Dr. Abbee recommends, with an atomizer. It did not work to suit me, and I afterwards used a small bulb syringe which did the work easier. I found it a long and tedious job, to open and cleans the cells filled with putrid matter. It appeared to be effectual in all cases, except when there was a deposit of old pollen in the cells, which the bees would not clean out, and the brood raised on top of it would be infected. The most difficult work of all, was to clean out the cells where the larva had died and dried up in the cell, without being capped over. This dried up larva is the coffee colored deposit found on the bottom board. The bees will clean them out after it is vaporized, but the disease does not appear to be entirely eradicated from them. The bees seldom uncap a cell filled with putrid matter. They make a small opening to see what the trouble is, and leave it in disgust. The amount of work attending the cleansing of the combs, and the uncertainty of the result, brought me to believe that there was no economy in trying to save them. That it was better to keep the bees in the best of these old combs, without a queen, and get all the honey you could from them, and destroy all the combs in the fall. Since then I limited my operations to this idea. As soon as the brood was all hatched, the honey was extracted, the best or cleanest combs were vaporized with hyposulphite of soda, the hive washed with the same, making all as clean as possible. Whenever honey is extracted, the combs are vaporized and put back into the same hive until the honey season is over, or the bees are worn out. The combs not used, are melted into wax as soon as possible to make sure that no bees get to them. Too much care cannot be taken to prevent the spread of this disease. I should not handle healthy swarms after opening an infected one, or use any of the tools for that purpose. I am satisfied from feeding one swarm with the honey extracted from diseased combs, that it is almost sure to carry the infection with it. If I wished to experiment further with it, I should try soaking the combs in a solution of chloride of lime, and afterward cleans with an extractor as suggested by Dr. Abbee. We ought to be thankful to Dr. Preuss for his microscopic examinations and Dr. Abbee for remedies. I treated my hives to a bath of burning sulpher by making a fire on the ground with a few chips, placing hives over the fire one on top of the other, without any top or bottom board, the heat passing through the hives like a chimney. After they were well heated up, a handful of sulphor was thrown in and a cap or board put on the top to keep the fumes of sulphor in. I then cleaned up the hives, gave them two good coats of paint inside and out, and count them as good as new. All frames and honey boards that were worth saving, were baked in a stove oven, and put in order for use, confident that they are free from anything that will start the disease. I introduced the disease the second time, into my apiary with a swarm bought in the spring of 1873, and I am fully satisfied that in this case it was caused from fermented pollen, as these combs were the first affected and the only ones for some time. Had there been any disease in the hive the year previous, it could hardly have escaped my notice when the combs were transferred to frames.

By this treatment, I have as many healthy swarms at the close of the season, as I had diseased ones in the spring, beside the honey which the bees hatched from the diseased combs gather, which is largely in excess of what I had expected.

I have sometimes got a few boxes of honey from the old swarms treated as new, but am satisfied if the hive is well stored with honey, and the bees in good condition for winter.

One great problem to solve is, is there any danger to other apiaries in this way of managing the swarms?

My opinion is that after the honey has been extracted the second time, and the combs have had a second vaporizing, that the honey if taken to a healthy swarm would not carry the infection with it. I should be afraid to use the old combs for brood combs without further treatment, as the old pollen might still retain the seeds of the disease.

I have noticed that the swarms kept without a queen, cap a large portion of the honey with an oval cap like that over drone brood. This has been so universal that I suspect something wrong with the queen in any hive when I find honey so capped.

L. C. WHITING.

East Saginaw, Michigan.

Getting Honey in Boxes.

Paper read at the seventh annual session of the Michigan Bee-Keepers' Association, Dec. 16th and 17th, 1874.

At your request, I will give a brief discription of our way of making box-honey. Not, however, with the idea of instructing your association, or of influencing any one, who has had more experience. We haven't got it perfect yet by any means.

THE HIVE.

I haven't had experience enough with the side-box hive, to be able to recommend it for general use. If bees will swarm from them, as readily as from top-box hives, then we have our labor in vain, in making more expensive hives, and in putting on a greater number of boxes. Bees swarmed immoderately last season in this section, from all kinds of hives.

I can safely recommend the Langstroth hives for box-honey, as I have had experience in their use, and they are successfully used, and are the leading hive in this section. It is ten inches deep, with ten frames.

THE MANAGEMENT.

As we have but little basswood, we are obliged to manage our bees, so as to have honey stored in boxes, from white and alsike clover, tulip, &c., in the early part of the season, (otherwise, we should have no

white honey to sell, and the business would be unprofitable). To do this, we design to get our combs well stocked with brood, and our hives filled with bees, by the time that clover begins to yield honey. Then we keep all old stocks strong, put on the boxes, a full set of 12 at once, and when they get so crowded with bees, both the hive and boxes, that we think there is danger of their swarming, we take away a card or two of cutting brood and adhering bees, and replace with an empty comb, or an empty frame. The brood and bees drawn, form nuclei. With some stocks, the drawing will have to be repeated after a few days, while others don't seem to start work in the boxes until we put in an empty frame, and set them to making wax in the hive.

Those stocks that are building comb in the hive, will need to have their combs looked over, about once a week while the yield of honey lost, in order to cut out the drone comb, before the brood is fed in it, so as to have it nice and white for the boxes. It requires the exercise of some judgment, in drawing brood, as it is better not to draw any and let them swarm out, than to draw too soon, or too much. The amount of brood taken depends so much on the yield of honey, the condition of the hive, and the quantity and age of the brood on hand, that no special rules can be given, and each must learn from experience in his locality.

KEEP STOCKS STRONG.

Each old stock is kept strong, and the extractor is not used on any stock that is storing honey in boxes. If they are well shaded by large trees, and situated so as to have a free circulation of air around the hives, by raising these up a foot or so from the ground, and a little brood taken away from time to time, as they can spare it, they will trouble but little about swarming in seasons when the yield of honey is good.

THE BOX ARRANGEMENT.

We do away with the honey board entirely, in order to bring the boxes nearer to the brood, and to give more free access to them, than we could do through the honey board; we like the two-comb box best, 6⅜ inches long by 3¾ inches, comb space 5 inches high. We put twelve such boxes on a hive that measures 21¼ inches in length by 16 wide (outside measure), by using a rack or clamp in this form.

TOP VIEW.

Take stuff ⅜ inch thick, 2¾ inches wide, cut four pieces 15 inches long, and two pieces 20⅝ inches long, nail through the long pieces, into the ends of the short pieces, with finishing sixes, leaving the spaces 6⅜ inches plump, so the boxes will slip in easy, four boxes in each row; then take hoop iron, cut four pieces 15 inches long, and punch four holes in each, large enough for a lath nail, turn the rack over, and nail a piece of hoop iron on the bottom edge of each cross-piece, so as to support the boxes. The top of the hive should be planed down, until the bottom of the boxes come down within 3-16 of an inch of the frame. This rack will hold 9 three-comb boxes, or 18 one-comb boxes, or 12 two-comb. We prefer the latter, with three slits in the bottom of each box. The slits are ½ inch wide by 4⅜ inches long, one in the middle and one within ½ inch of either side, leaving an inch of sound wood at each end for strength. There should be ⅛ of an inch side shake, to each row of boxes, for convenience in getting them out.

TIERING UP.

When the bees get the first tier of boxes full, and begin to seal up, and get it sealed up half way down or so, we raise them up and put a set of empty boxes under them, with slits in the top to correspond and guide combs in place. When the first set of boxes are nearly full, is the most critical time with us, as they are then crowded for room, and get the swarming fever in consequence. If the whole set are not ready at once, we would raise one row, or even one or two boxes if no more are ready; can give room by tiering up instead of drawing brood; use a rim to make the cover six inches deeper for each tier.

RISKS OF SWARMING.

In keeping all stocks very strong, we of course take some risks of swarming. One wing of each queen is clipped, so that there is no climbing of large trees, or going to the woods about it. We have found the following plan the most successful to quell the swarming fever after they attempt to swarm: Have saw-dust, or tan-bark around the hives, or else keep the grass cut very close, so as to find the queen readily when a swarm rushes out; pick up the queen and put her in a wire cage, and wad a piece of paper in the mouth of the cage to confine her till the swarm returns, then cover the old hive with a sheet or large cloth, to prevent the bees from entering it, and place an empty hive or box in front of it, in such a manner as to catch the swarm when it returns; lay the queen and cage down at the mouth of this hive, and when the bees begin to enter, liberate the queen, and they will go in more readily; when they have entered, remove the swarm to a new locality, a rod or two distant, in the shade if convenient; having swarmed they will adhere to the new location. Now remove the old hive a few feet to one side, and place a nucleus with an unhatched queen cell, or an empty nucleus hive, on the old stand; take off the boxes from the old hive, take out the brood combs, and brush off every bee remaining in the hive, into the nucleus. If the hive containing the new swarm, is the same size of the old one, we would put brood combs (as fast as we clear them of bees, of queen cells, and drone brood) directly into the swarm, and let them occupy it. The boxes should be cleared of bees also, and put on the swarm, and tiered up if any are ready. Now we have the bees sorted. We have a new swarm on a new stand, that is, we have all the bees that are favorable to the old queen with her, and have given them all the worker brood, and all the boxes, and we have got rid of all the bees that were raising queens. When we have

served them thus, we have found, that they generally resume work in the boxes, and make no further trouble about swarming for the season. In view of the condition of the honey markets, it looks as though box-honey would be superceded by small frames, as the exclusive honey dealers cut out a great deal of comb-honey, and put it up in jars with extracted honey. I believe small frames are well liked by consumers everywhere, but are not well liked by large grocers, where they deliver all goods to the consumer in wagons.

Binghamton, N. Y. J. P. MOORE.

For the American Bee Journal.

Patent Hives and Venders.

In reading the articles of some of your correspondents, one would almost be led to believe that patent rights on bee hives are and have been all humbugs and those owning or selling them the biggest swindlers outside the pale of law. Now let us carefully examine this subject and see if this business is wrong and deserving the condemnation of all honest apiarians. Is it anything against a worthy patent right, that some one has been made the dupe of sharpers and bought a useless article, perhaps, what purported to be a patented bee hive, when if they had subscribed for and read any one of our BEE JOURNALS, they would for half the money, been intelligently posted and proof against all humbugs in the shape of worthless bee hives.

Query: Does it detract from the merits of the old AMERICAN BEE JOURNAL, because its issues were copyrighted?

Are patent laws considered in all civilized countries so necessary to foster and encourage invention, but blots upon the Statute Books, which ought to be wiped out? Can any considerate person demur at their justness and hesitate to acknowledge their protecting influence in fostering improvement whether it be an intricate piece of mechanism, an agricultural implement or a movable comb frame bee-hive. Is Langstroth's work on the Hive and Honey-Bee of less value because it recommends a bee hive invented by its author, and explains the advantages of the movable comb frame? Do we think any the less of the teachings of this eminent apiarian because he presumed to obtain a patent upon the hive he had spent the best years of his life in devising to meet the wants of the apiary, and which added millions of pounds to the honey surplus of the country besides giving a new impetus to bee-keeping? Is not as quoted by Mrs. Tupper in her Essay for Agricultural Report "The laborer worthy of his hire." Have not patent hive men in bringing their hives to the notice of the public furnished advertisements for our journals, promoted bee-culture and helped to create an interest in this much neglected pursuit? Do not the articles written by the elderly gentleman, Mr. Jasper Hazen, though somewhat devoted to his pet theory "overstocking" infuse new life into bee-keeping and well repay an earnest perusal? Have not Mr. Hazen and Mr. Abbey demonstrated what may be done in the way of obtaining surplus honey from side storing hives, by piling boxes either at the side or ends of the frames?

Have not the frame of the American bee-hive introduced by Mr. H. A. King, become a standard with some apiarians, as has the varied forms of the Langstroth frame, and who would dispense with their use for ten times what their rights cost them. What Mr. Harbeson has done to develop the culture in Calafornia, as demonstrated by his shipments of tons of honey from the Golden State is in beautiful contrast with the tableaux presented in the moving of his first swarms across the plains before the track of the iron horse had spanned the continent. Yet this same Harbison is, or was a patent right bee-hive man.

What is true in the above mentioned cases is the same with numerous other patented hives, each possessing more or less merit as skilfully handled by the operator having it in charge. In most cases a practical apiarian could take any of the movable comb frame hives now in use and be successful with them, whereas a tryo might fail with the best hive extant. Do we not see the hive invented and used by New York's venerable bee-keeper condemned by an Ohio "Novice" and yet read of a correspondent to his "gleanings" going through a yard of 60 Quinby hives in an almost incredibly short space of time for such an operation? And that New York's great honey raiser, Capt. Hetherington, of Cherry Valley, had gone to some thousands of dollary expense in changing his hives to this same (by Novice) condemned style. Who among your many readers would hesitate to purchase the right to make and use the perfect bee-hive (not yet invented.)

At present the hive best adapted to the attaining of surplus and successful wintering depends more upon the skill of the operator and not in the make of any particular style, though some may possess great advantages over others. In consideration of all these facts is it not more advisable to encourage improvement, trusting to our judgments to distinguish what is and what is not best for us to use and not frown upon or discard a worthy article, because the inventor has been to the expense of getting it patented.

Does it detract anything from the merit of a well made and painted hive, because you can get a non-patented simplicity for one dollar which in the estimation of many, would be dear at most any price. Does it look reasonable that one who has made a small fortune out of patented bee implements, prompted by a remorseful conscience should at this late day conclude that selling rights is wrong and advise bee-keepers "to invest no money in territory for patents of any kind." Yet in the same issue of his Magazine advertise for twenty-five cents to send directions for making the "International" which said directions sum up thus. "An ingenious mechanic might make a hive *nearly* correct from these directions; but we advise all to remit for a sample hive which we will send from the nearest factory." Probably a second attact of the above nature will lead to the publishing of these directions free but never include the sending of a sample hive. No one who has sent seventy-five cents for a much advertised bee-feeder and in return received a tin cup, worth about 15 or 20 cents, and which could be hired made at most any tinsmith's for 9 or 10 dollars per hundred will not be at all surprised at this change of conscience. Has this the look of a strictly con-

scientious move, or does it rather savor of a change in policy to create a larger demand for advertised wares perhaps at the expense of those who are selling patented articles. Another loudly proclaims that his wares are not patented, but when you think you could manufacture the metal corners cheaper than to send to Ohio for them and write for particulars, you receive in reply to your inquiries, that the corners are not patented, but the machine which stamps them out is, and costs in the neighborhood of $2.50; that you can manufacture for your own use, but not to sell. Generosity unparalelled: you can have the privilege of paying $2.50 for a patented machine to manufacture perhaps $20 worth of tins for your own use and then hold up, or find yourself brought before Uncle Sam's bar of justice, to answer for infringement of the patent laws. Oh, consistency thou art a jewel?" While exhibiting honey at the N. Y. State Fair, last fall, I had an opportunity to converse with many bee-keepers, and found representatives for most kinds of hives in general use, not one of whom complained of ever having been swindled in buying a patent bee-hive. My observation is that improved bee-keeping and patent hives have gone together and that we are pretty certain to find the old gum in use where the brimstone theory is still in vogue. I would in no way apologize for a hive or queen swindler, but do not believe in condemning the genuine because there is sometimes a counterfeit. We have this consolation that the Patent Laws do not compel us to use a patented article, consequently if it does not suit us, all we have to do is to let it alone.

The present demands the united action of those interested in promoting the interest of bee-culture as a broad field for occupation remains unoccupied, and those who are devoting time and money to the furtherance of this neglected industry are entitled to our encouragement, that they may succeed in devising means to secure more of the tons of liquid sweet which annually go to waste for want of gatherers. This secretion of honey which only takes place when atmospheric conditions are favorable, often vanishes with the disappearance of the morning dew and without plenty of laborers cannot be saved. The field is broad and open to all. There need be no clashing of weapons, for as a rule he who vends a hive will endeavor to introduce the best, as he has a reputation at stake and if he makes a mistake it will be an error of head rather than of heart. C. R. ISHAM.

Peoria, Wyoming Co., N. Y.

Enemies of the Bee.

I notice in the February JOURNAL an article on "Bee Enemies," giving a discription of the Asilus family, and an account of their operations as bee-killers. Now we have an insect here called the mosquito hawk, that is very destructive to bees, and resembling the insect described in the article refered to, but is much larger, measuring two and a half inches and more in length. It, is no doubt of the same family, but being no entomologist, I cannot say. This "hawk" makes its appearance usually about the middle of June, and comes in numbers varying with the locust of Egypt, or grasshoppers of Kansas. For the first month or so, they are seen only at evening, near sun down, but as the season arrives, they operate to some extent the whole day; always turning out, however, in great numbers, in the evening. They seem to be always on the wing, except when devouring their prey. The air is filled with them, darting hither and thither swiftly, like bees swarming, and almost as dense.

They take the bees while on the wing and when settled on the hive, by pouncing on them, just as a chicken hawk does upon his prey, and then light upon a perch, high up in a tree, if one is convenient.

In what way they operate on the bee in devouring it, or what part they eat, I have never been able to discover, from the fact that my apiary is in the midst of tall native oaks, to the limbs of which these cannibals resort to regale themselves on their captives. They all disappear about the first of September. From their great numbers and the length of time they operate, say three months, they must destroy millions of bees.

How to destroy these "Jayhawkers" or prevent their ravages, is what puzzles me. To knock down a few hundred with a bush, as you may easily do as they whiz past, does not seem to lessen the number. As McBeth said of the English: "The cry is, still they come." Let us hear from some of your *bug* men, on this mammoth asilus of the South. Last year was a very poor year for honey until September, when the bees commenced on the smart weed, and for five weeks they worked on it, gathering abundant winter supplies of the richest and most delicious honey. I never dreamed of that weed producing honey or being good for anything else before. It grows here in great profusion, and is certainly the most valuable honey-producing plant we have in this region. J. APPLEWHITE.

For the Ameaican Bee Journal.

How I Succeeded.

I promised in the July No. to report my success during the summer, with the High Presure Hive worked on the different plans proposed, viz: Hazens' Adair vs. Gallup, &c.

Well, after breeding up largely in the spring as I was able, *it being a very late* one, I arranged swarm No. 1, to work on Hazens' plan, and got 32 5 lb. boxes imperfectly filled, about 125 lbs., divided the swarm in September, and with an extractor took 60 lbs. that was not needed for winter.

Swarm No. 2, I worked on Adair's long one-story, extended it to four feet eight inches, eight inches more than I got occupied, worked exclusively with the extractor, got a trifle over two hundred pounds, divided in September made two very large swarms.

Swarm No. 3, worked two stories, full size, with forty frames. It seemed too large, and was not occupied to advantage. I worked with the extractor, got 148 lbs. divided in September.

Swarm No. 4, I divided as soon as bred up, worked them in the single high presure hive, two story each; got 305 lbs. from the two.

Swarm No. 5 and 6, I worked full size, lower story, with twenty frames each, with long boxes and little frames, in supers. No. 5 gave a good yield of honey. No. 6 after

running some time in the summer with a poor queen, they superceded her or rather I did; but they hardly more than got into condition for winter. The six figured up to 1,200 lbs. and a trifle over, and four swarms of increase.

I would say that I had the benefit of about sixty empty cards. My whole apiary of 35 swarms, in the spring, gave me 2,400 lbs., and 32 increase, and are now, March 11th, in close confinement, numbering over 90. The thermometer ranging from 38 to 45 degrees above zero, all seem to be doing well. I am inclined to the belief that a long one-story hive will allow more increase than any other form of hive; but as to surplus honey, I choose to experiment farther before I decide.

A. H. HART.

Appleton, Wisconsin.

Wax Melting.

It is a great saving to have a good place to collect all scraps of wax, until melting time. I make an article that costs only three or four dollars, that makes a good receptacle. It is made in this way:

Get a piece of tin, zinc or galvanized iron, about 3½ feet long, and 3 feet wide, form it into the shape of a sap trough, put ends in of the same material, and in the bottom an inch hole. Then get 4 panes of glass and make a frame for them like a window sash, and put it over the trough-shaped tin, making it tight so that the bees cannot get in. It is then ready for use. Set it in a sunny place, and put in the comb, and in a short time it will melt and run out at the hole in the bottom. Set one end up about six inches higher than the other.

I put my bees out of the cellar on March 26th. They were in good order. Four were very weak and I expected to loose them. I also lost four others out of 153 swarms. All the bees that were wintered out of doors in this vicinity are dead, so far as I can hear.

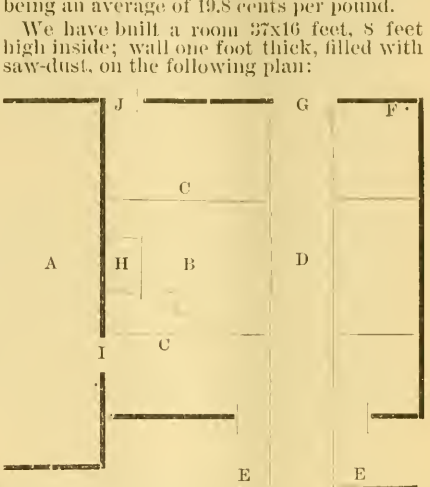
Campton, Illinois. R. MILLER.

For the American Bee Journal.

Report of my Apiary.

One year ago I had 122 colonies of Italian Bees, in a second story room, 16x19 feet inside, double walls one foot thick, filled with saw-dust; temperature ranged from 39 degrees to 60 degrees. I had on May 1st, 86 colonies, 36 having gone up. I took 70 of the best colonies left, and united them, so as to make 44 colonies. On the 12th of May, moved them (the 44) on spring wagons (2 loads) 17 miles to a large poplar (*liriodendron tulipifera*) grove, where they gathered 5308 lbs. of honey, taken out with extractor. On June 20th, we took 36 of the 44 colonies 36 to a linden (*tilia americana*) grove, where they gathered 3259 lbs. of honey, also taken out with extractor. In all, 8567 lbs. of honey. The 16 colonies left at home, we made into 51 nuclei. August 7th, brought the 44 colonies home, built up the nuclei into strong colonies, fed them 1468 lbs. of A. coffee sugar made into syrup, 1 lb. of water to 2 lbs. of sugar, boiled, put nothing else in it. We took the combs all from 8 colonies, fed them syrup, and had 80 combs built by them, 9¼ x16½ inches. Fed one colony 94½ lbs. of syrup, they built 10 full combs; we then extracted 44¼ lbs. of syrup from the 10 combs, so that the 10 combs cost us $4.00, with sugar at 12 cts. per lb. We have sold 4562 lbs. of honey for $1,015.99—$110.00 for cans, being an average of 19.8 cents per pound.

We have built a room 37x16 feet, 8 feet high inside; wall one foot thick, filled with saw-dust, on the following plan:



A.—Fruit House.
B.—Bee Room 37 x16 ft. inside, 8 ft. high.
C. C.—Rail Road track for cars with bees to stand on in the house.
D.—Rail Road track into bee yard 1 foot lower than *C. C.*
E. E.—Side tracks for cars with bees to stand on when out of doors.
F.—Passage for bad air out under wall.
G.—Ventilator for air above the ceiling to come into room at the floor.
H.—Ventilator in ceiling for air to pass out.
I.—Small door into bee room.
J.—Door to give free ventilation at any time when necessary.

I have cars built so that 20 colonies stand on each car, 10 on one side and 10 on the other; fronting 10 east and 10 west, set 1½ inches apart, packed between with buckwheat chaff. When a day comes that the thermometer shows 45 degrees in the shade, we run the cars out of the house to let the bees have a play. We have had them out twice this winter. We have 100 colonies on 5 cars and 13 on another. Can run them all out in twenty minutes. Will let them stand on the cars until about the 12th of May, then move them to poplar grove. The chaff is to keep them warm in the spring, after they are run out of the house permanently, until moved away.

We have the yard in front of the bee-house covered with gravel, so that when a bee gets down on the ground it can get up on a pebble to start on the wing again easily. The yard is south of the house, and is dry and warm.

We will have a stone trough 3x5 feet with bottom covered with pebbles, and a water vessel so arranged that the water in the trough will stand just high enough for the bees to alight on the pebbles and sip the water. Also a zink pan 3x7 feet, 1½ inches deep, with lath 1x¼ inch, standing on edge, every 3 inches across the bottom of the pan, so that when there is flour one half inch deep in the pan, the bees can get up on the lath to take wing. The trough and pan will be on a car that can be run into the bee-house when the weather is unsuitable, out of doors.

We extracted the honey from the combs four times during the season. Four persons can take the combs out of the hives, extract the honey and put it in barrels, at the rate of 1500 lbs. per day, and put the combs in the hive again easily. Our extractor is one of our own make, and will take 4 combs at a time. The can is stationary. Next year we expect to have the machine arranged so that the honey will run into the barrel as extracted, which will enable us to take out 2,000 lbs. per day. Our hive is the Langstroth Double Story, 20 combs.

P. W. McFATRIDGE & SON.

Carthage, Indiana.

For the American Bee Journal.

Bee Items.

I notice in the March No. of the JOURNAL an article on numbering hives. I agree with Mr. Wilson, and think it very necessary that every hive should be numbered, and its stand numbered to correspond, especially if the bees are wintered in doors. I once concluded to change the location of my nucleus hives by setting them out in spring directly on their new stands. They had been in the cellar about four weeks and I thought would not remember their old location. But I soon found out different. The bees, in returning to their hives, all went back to their old stands, and I was compelled to set their hives back again on the old stands. Now if there had been other hives sitting on these nucleus stands, I would surely have lost all my nucleus swarm, as the bees would all have went into the hives that were sitting on their stands, and I should not have noticed it; but as there were none there I noticed the bees flying about hunting for their hives, and I moved them in time to save them.

I raised an Italian Queen in a nucleus, and as soon as she became fertile and laying, I attempted to introduce her to a queenless stock in the farther end of the Apiary. I caged her and waited the usual time, then examined them but they would not accept her. I kept her caged eight or nine days, feeding her every day myself, but they would not receive her. So I concluded to open the cage and let her out on the comb and see what they would do, but instead of that, she took wing and was out of sight in a twinkling. I stood still waiting for her to return to the comb, but she did not come. I gave her up for lost, but thought I would look in her nucleus where she was hatched, and sure enough, I found her imprisoned by the bees, they having sealed queen cells would not receive her. It has been said that it makes no difference in sitting bees out in spring if we do set them on one another's stands. But I can't believe it. They will recollect their old stands a long time, and it causes a disturbance among them by having strange bees trying to get into their hives. Besides a great many are killed in entering the wrong hives, as they are taken for robbers. I have the entrance blocks to my hives numbered and a corresponding number on each stand. I carrying my bees out of the cellar, I notice the number on the entrance block and set the hive on its own stand. It is no more trouble or work to set them out right, than it is to set them wrong. "Have a place for everything, and keep everyting in its place," I think should be applied to bees as well as any thing else.

J. M. BROOKS.

Columbus, Indiana.

New System of Bee-Culture.

"Coe's Apiary" is a Bee-House and Bee-Hives combined. The house is used as a permanent receptacle, or summer and winter stand, for the hives; and is so constructed, that the room containing the hives, is protected on all sides by a series of dead-air spaces. And, being warmed and ventilated by the heat generated by the bees, the air inside may, by the proper adjustment of the ventilating flues, be kept of an even temperature—higher or lower as desired—quite independent of the atmosphere outside.

It is not claimed specially for this system, that it will produce fabulous amounts of honey from individual hives, unnaturally pushed for that purpose. But it is claimed, that it reduces to a practical, well defined method, all our present knowledge in bee-culture; by means of which, an average annual product may be depended upon with as much certainty as in any other branch of industry.

Among the many excellences of this system the chief one perhaps, is, that It possesses in great perfection, all the conditions necessary to wintering bees without loss, with the smallest consumption of honey—combining the desirable features of a summer stand and special winter repository, without the expense, labor, and trouble of either. It is also specially adapted to the necessities of bees during the changeable, windy weather of early spring, when they require a higher and even temperature to facilitate breeding, and when the hives must be frequently opened.

As in winter the temperature of the room may be kept above that of the outside atmosphere, so in summer it may be kept below; thus protecting the bees from severe extremes, both of heat and cold.

Another valuable feature of this system is, that it overcomes entirely that greatest of all objections to bee-culture—the fear of being stung.

The bees adhere more closely to the combs, and are less disturbed, than when a hive is opened in the bright sun-light, and any that do leave the combs fly directly to the window, and not into the face of the operator. Veil and gloves are dispensed with, and visitors may stand by and witness all the manipulations of a hive without the least fear of being stung. For all the operations to be performed in an Apiary; such as, feeding, transferring, making artificial swarms, extracting, placing and removing surplus boxes, introducing queens, queen-

breeding, equalizing, &c., this system affords conveniences and facilities so far superior to the out-door system, that it is difficult even to make a comparison.

This mode of bee-culture also commends itself for general use, on account of its cheapness.

The house and fifty hives will cost about one-third less than the same number of good out-door hives. And while the house and hives will last a life-time, the out-door hives must be re-placed by new ones every four or five years.

Also by this system, bee-culture which has been very appropriately termed "the poetry of labor," is brought quite within the sphere of woman's work.

How untiring industry, tender sensibilities, and acute perception, eminently fit her, not only for the duties of this delightful employment, but also for the discovery of means for its more perfect development.

J. S. Coe.

Montclair, New Jersey.

For the American Bee Journal.

Austin Texas.

I want to describe Austin, Texas, as plainly and concisely as possible, and try to induce some bee-keepers to come and settle among us. Bee-keepers don't know what to expect of Texas, and therefore are afraid to come here.

I don't know how well other places in Texas are adapted to bee-keeping, but I do know that Austin is a first-rate place. I will give you a record of my apiary for 1874.

I began with 30 colonies in the spring, these increased to 64, of which I sold 10 in about the middle of the honey season; this left 54, from these I took after September first, about 3,000 lbs. and could have taken more, had I began sooner. Altogether though the year I took about 4,000 lbs., besides raising a few queens. All this was done under disadvantages, I being sick every few days for two months in the honey season, and couldn't procure any help. Besides this, I was not in the best location, and we had a drouth of three months when the bees did not gather any more than enough for their own use.

This drouth was unusual; the usual length being only about two months duration.

Bees begin to gather honey about the 8th of February, though they don't store much of it.

If you have empty combs to use, you can begin to extract about the middle of March.

By the last of March, the Italians begin to swarm, though the Blacks seldom swarm before the 10th of April. After the swarming is over, the bees begin to store honey in earnest, and continue to store with little interruption until the middle or last of July, when the drouth sets in, and continues generally six weeks or two months, this is the first honey season.

About the 19th of September, the fall rains set vegetation growing again as in spring, but we gather a larger harvest than we did in the spring and in a shorter time. In many sections, this harvest is almost ruined by the bitter honey gathered from a plant that covers the poor land. This harvest lasts until the frost stops it, about the first or middle of November.

Friends, if any of you are going to move, come to Austin, we have a healthful climate, beautiful country and warm winters.

Don't undertake to bring your bees with you, sell them and pocket the money, come here and buy Black bees and Italianize them. You can buy bees from 50 cents to $5.00, the price depends upon the locality. Hives will cost from $2.50 to $6.00 each.

Come, there is plenty of room.

B. H. Ives.

For the American Bee Journal.

Longevity of Bees.

In the February number of the Journal, Mr. Weatherby enquires about the comparitive longevity of the Black and Italian bees. Perhaps the following from my memorandum book, may interest him:

July 13th, 1872.—Selected two medium swarms, one black and one Italian; placed them at considerable distance from my other hives, changed their queens, confined them in cages, and placed them immediately among their new subjects. At this time the combs were well filled with eggs.

July 15th.—Set them both at liberty.

July 19th.—Found both queens laying freely.

Aug. 5th.—Three weeks from the time they commenced laying in their new hives, I found a few young bees leaving their cells.

Aug. 10th.—A very few young bees appeared at the front of each hive, and after flying a short time returned.

Aug. 19th.—A considerable number of young bees appear in front of both hives and seem to be at work, but do not bring in any bee-bread.

Aug. 21st.—The young bees in both hives are very busy, and occasionally one comes home with his legs loaded. After this time they are busy and numerous.

Sixty-one days after, I changed the queens. I examined them very carefully and found but three or four bees belonging to the old stock in each hive, which shows that these bees lived less than forty days after leaving their cells, the first five of which were spent within the hive; and they did not appear to be really at work until about the tenth day.

H.

Will Co., Illinois.

Introducing Queens.

Have your hive made tight, and of thick lumber, to receive the frames of any of your other hives. Have two doors in place of sash or frames, so that you can make the hive any size you wish. When you get your queen, go to some of your strongest hives and get two frames with hatching brood, place them in the center of the hive, with the two doors close to them, which makes a hive of two frames; then put the queen with the bees that come with her in with the two frames of hatching brood, and keep them shut up for two or three days in the parlor or queen house, or any warm place; keep up the warmth by placing bottles of hot water in the empty space on each side. After three days, add a frame of bees, etc., by putting them for 12 hours, on the side, in place of the bottles, and then shake them in front and let them go in; then add the

frames to the other two, and continue till the hive is full. Place them on the third day, on the stand they are to occupy, and allow them to fly, by opening a small hole. Release the queen at once, and there is no danger of her being killed.

We had large quantities of honey dew this year again, and bees have paid well, where they have had attention, and I think Western North Carolina is destined to be one of the greatest honey-producing countries in the world. It is well adapted to the culture of all the fruits and grapes that will grow in the climate of this temperature.

Stock raising is wonderful; it is very healthy, pure air and water, and water power to run almost all the machinery in the United States, if it was applied.

ROBERT T. JONES.

Flat Rock, N. C.

For The American Bee Journal.

Granulated Honey.

In an article in the February No. I think Mr. Dadant in his article on adulterated honey does the bee-keepers of this country a great injustice. I was astonished on reading that article. I had supposed he was better informed on that subject. He says: "It is consequently of the greatest importance that all BEE JOURNALS inform their readers that the best test for honey is the candying; that honey candies because it is formed of grape sugar, which granulates and does not crystalize. That on the other hand sugar syrup is made from cane sugar which does not candy but crystalizes. That if they find on the market from December to June, a so-called honey in liquid condition, they can with absolute certainty declare it a sophisticated honey, or at least a honey which by boiling, or by pure mixture, has lost its character as true and pure article." If Mr. D. had stopped when he said that candying was a good test that the article was not sophisticated, it would have been well enough, but when he asserts that all pure honey granulates before December with an absolute certainty he not only states what is not the fact, but he injures the business of all bee-keepers that wish to put a pure and first class article of extracted honey on the market. Honey will not granulate except through a process of deterioration while the flavor is not injured as much as by boiling, yet it is injured so that it is readily detected in tasting a sample of each. I have had honey two years old, and no more signs of granulation than the day it was extracted. If Mr. Dadant would drop in now at the Patron's Corporation store in Lawrence, he could see some of my honey that was extracted and bottled last June under four linden blossoms, that is as clear as when put up. The fact is, if honey is properly evaporated, it will not granulate for a long time, it at all. The thinnest honey granulates the first, and the best honey is honey that is not granulated, the next best is the granulated and the granulated brought back to the liquid state by heating, is still a little inferior. This of course has reference to honey from a given plant. But if care is taken in heating, the difference is scarcely preceptable. Ir must be held in water and the vessel that contains the honey must not come in contact with the bottom or sides of the vessel that holds the water, and the water must be heated very slowly and must not be brought to the boiling point at all and only enough to dissolve the honey. If Kellogg had done that way he could have evaporated his honey without making sorghum of it and without very much injuring its flavor, and if the water is not heated more than 150 degrees, we doubt if it would be possible to detect any injury to the flavor of the honey. But the best way to evaporate honey is in vats or pans made of galvanized iron or tin and the honey put in about 2 inches deep, in this way in the summer time it will evaporate itself without artificial heat, and you will have from the thinest honey taken out the same day that it is gathered.

Just as thick honey as you choose, you can prepare in that way that will, in many instances keep for years without any show of granulating. Sometimes honey is very thick when gathered. I will say here, that the honey that I had over two years without granulation, was put up as fast as extracted. It was gathered principally from the poly-gonum and buckwheat. What we want in the disposition of our honey, is honest dealers. Another way is for bee-keepers to put their own honey on the market, under their own name. Many are doing that way now, and there is no reason why it could not be more universally practiced.

Lawrence, Kan. N. CAMERON.

For the American Bee Journal.

My Report.

I have started an apiary, and will show some bee-keepers here, how to keep bees. I think that I can keep more bees than has ever been kept by any one man here yet. Some claim that I cannot run my number higher than 40 or 50 colonies, if I do my best, but I don't believe a word of it. Quite a number in this county have started the bee business, and have a bright looking apiary, of 30 colonies, more or less, but when spring would come, they would have perhaps 10 colonies left to build up again through the summer. This is the way they have done for three or four years, they let their bees go down and then say that there is no money in them. We remarked that they gather honey, and we can get money for that. Yes, but they will die through the winter, they say; but I say there is a reason for your bees all dying. I have handled bees all my lifetime, more or less, and for the three last years I have done but little else.

Bees are wintering very well here, so far. I have 11 of my colonies put up a new way for wintering. I went to the saw-mill and got some slabs, cut short; 3½ feet is about the right length to split up for stakes, and to cover with. I drove 4 stakes around the hive and about a foot from it, leaving the stake about as high as the hive with the cap on; then stuffed straw all around the hive, clear to the top, my bees all stand with the front to the southeast, then covered the hives, straw and all, with the slabs. In one of these hives I have three nuclei, each one having a queen. They were all O. K. when last I saw them.

A word for the Italians; they are the only bees for me. I wouldn't give one good Italian colony for five of the best black bees

I ever saw. The Italians are not so cross as the blacks, and it does not take as much to keep them. You can give the Italians some advice and they will take it, but little advice the black bees will take. They would sooner give you a sting.

D. H. OGDEN.

Wooster, Ohio.

For the American Bee Journal.

How I Wintered.

I have not seen anything for a long time from Mr. Gallup. Perhaps the abuse he has received has disgusted him with the bee-keepers. Myself as well as others have been buying the New Idea hive, and am satisfied that in a good location for honey it will give large results. Those who have failed to obtain large surplus have either a bad location or else they do not manage it properly, and if Mr. G. does not furnish the brains to run them, they should not blame him. I made a Gallup hive last spring, four feet long, found it larger than necessary for this place as honey is rather scarce here in town, but it gave me twice as much surplus as any other. Last fall I prepared them to winter on their summer stand according to Mr. G. direction, but I confess I did not have full faith in their wintering well. After we had had two months of the coldest weather known in this climate, I went to the hive to see if there was any of them alive but got no audible sound from them, and concluded they were all dead, gave them no further notice until March 10th, when the thermometer rose to 40 deg. the first time in months, I concluded to open the hive and know the result. Imagine my surprise to find them in the best possible condition; combs bright and clean, not more than half a pint of dead bees, very little of the stores consumed, and four frames containing brood. I could not help giving one good "hurrah for Gallup and the New Idea Hive."

I do not presume to give advice to any one, but for myself I shall winter my bees on their summer stands, in the above named hive, hereafter. I put ten swarms in a frost proof cellar, but none of them wintered so well as the one left out. B. L. TAYLOR.

Minneapolis, Minn.

For the American Bee Journal.

"Bee Lines" from Texas.

"Candid honey, a test of purity and excellence." That's the key-note, Mr. Editor. Sound it so loud, Bro. Dadant, that all bee-keepers and adulterators too, shall hear it, and let the latter *tremble*. we were really glad to see both of you take that stand. For I have long since considered granulated honey the best of all honey. I have been greatly surprised at apiarians making the inquiry how they might prevent their honey from candying, in order to change it back to a liquid state. But my greatest astonishment has been, that honey dealers should reject candied honey as unsaleable. But it is very evident that the dealers wished to get the honey at as low figures as possible, that they might make the larger profits out of it. I hope that all bee-keepers will fall into line and make "candied honey" a test of excellence, and head off those honey adulterators.

I will say to Charles Sonne, of Sigel, Illinois, that we are troubled very much with the "Asilus fly." We have at least a half dozen that prey upon our bees, a large brown and 1¼ inch long (Promachus), and another 1 inch long, redish brown with green head. (Dasypozau), and still another ¾ inches, very much resembling a bumble bee in color. They prey on other insects, and even on each other. I have seen them capture the Dragon fly, much larger than themselves.

The largest sized Dragon fly (Musquito Hawk), is one of our greatest bee enemies. They hover over our apiaries by the hundreds, and take the unwary bee on the wing, continuing their flight while they devour their victims bodily, or else alighting on some limb near by and take their meals more leisurely. I have written several articles on enemies of the bee, particularly of the "Asilus fly," and I am a little surprised that Mr. Some has not read them.

Our winter is pretty severe for Texas, but our bees are wintering well.

Kaufman, Texas. A. H. R. BRYANT.

For the American Bee Journal.

How we Wintered.

The plan of wintering bees, by which we have succeeded in saving every stock, on natural stores, all coming out in splendid condition, no signs of dysentery or bee disease, and with but very few dead bees under the frames, is as follows:

First, remove the cap and boxes, cover the frames with a piece of cotton sheeting, putting a tack in each corner to keep it in place. Then place the hives in a shed, boarded tight to keep out all storms, in rows about three inches apart; then pack straw between and around and on top of the frames, so they will be covered three inches with wheat straw; then lay plank on top, to keep the straw in place or you can put another tier of hives, on them. We prefer wheat straw for several reason: In extreme cold weather, there would a steam or vapor come out of the straw, like a person's breath; in mild weather it could not be seen. That vapor is what killed the bees, *we think*. Our bees had the same chance to get at cider, bug poison, honey dew, &c., as others in our vicinity, and why did they not die. It *was the manner of wintering*, we think.

Several years ago we tried covering half of the hive with straw and the other half empty boxes turned as for storing honey, all covered with cap, with two ventilating holes open in it. In the half of hive covered with straw the combs were wet, and mouldy, and the bees dead; whilst the other half was all right, combs dry, and bees alive, dry and nice. Can it be possible there was different kinds of honey in that half of the hive? No,

it was the difference in the manner of wintering. If the cap had been removed so the air could dry out the straw, we think that half would have been all right. The honey boxes on the other half were the common square boxes, made of white wood. When they got wet, they warped and sprung apart so the moisture escaped into the cap out through the ventilating holes and kept the bees dry.

The only source of danger we can see in our plan of wintering, is the mice. Yet we have had no such difficulty, the past two winters, and this one so far. We shake out all the chaff, so as to leave nothing in the straw to entice the mice or rats to nest in it. BARKER & DICER.

Marshall, Mich.

Foreign Department.

CONDUCTED BY CH. DADANT.

For the American Bee Journal.

Historical Notes on Bee-Culture in Auvergne, (France.)

This interesting historical sketch has been translated for Adair's Annals of Bee-Culture, but as Mr. Adair seems to have abandoned the publication of that book we take the liberty to translate it again for the A. B. J. [TRANSLATOR.]

Among agricultural industries, bee-culture is generally the most neglected branch. It is only the exceptions among our husbandmen who possess a few bee hives. Mysteriously hidden under the shade of the bushy hedges that enclose the small village gardens, they are almost abandoned to their own chance. In the spring, the proprietor deprives his swarms of the fruit of their yearly labor, and then, until the ensuing year, they remain there, forgotten, and almost unprotected. It has not always been so.

Among the Romans, bee-culture was regarded as an important source of income. One of the most essential requirements to obtain the rent of a farm, was to give proof of one's apiarian knowledge. Domestic economy then required a large quantity of honey, not only for the making of confectionery, cakes, artificial wines, but also for the celebration of sacrifices offered to the rural divinities that watched over the gardens, the orchards and the harvests. For such a consumption, the Italian production of honey was not sufficient, and it is not too rash to advance that, among the reasons which induced the Romans to invade Gaul, the quality of the honey that the forests of that country furnished, can be taken into account.

The French have had for bees and their products the same relish as the Romans. The *Salic Law* contains a whole chapter of regulations on hives and their inhabitants.

The possession of bees was highly prized and each one planned to increase the number of his colonies. Several means were indicated.

Our country being then much more covered with timber than at the present day contained in its forests a large number of wild swarms, lodged in the trunks of old trees. The lords and monks maintained particular servants called *apiculaires* whose office was carefully to collect those colonies. We could not discover what their process was. The study of the habits of the bee could have pointed out a large number of ways of the utmost simplicity. In South America, for instance, the bee-hunters know very well that a bee detained as prisoner for a few moments will fly to its nest in a straight line without deviating. It is only necessary to catch a few bees, to sprinkle them with dust from the stamens of plants so that the eye can follow them better, and to liberate them one after another, allowing them to start from different points; at the point of intersection of the lines followed by the liberated captives they are sure to find the swarm and the spoils that they covet.

In the month of April when the willows are in bloom, and in the month of May, when the white hawthorn disappears, the *apiculaires* ascending along the brooks, and around the springs, succeeded easily in discovering them, by following the bees that came to water *en foule* and returned back to their hive after having visited the pine and the oderiferous grasses. Then they carefully studied the character of the swarms before removing them, so as to reject the lazy races of bees, for according to the erroneous belief of those people, they would have dishonored the good bees by their bad example.

Several lords, high justices, had alone the right of removing the honey bees from the forests. This right was called, in the feudal language, right of *abeillage*.

In relation to the fugitive swarms, according to the custom in Auvergne, which was consecrated by old usages, he who found them on his estate was compelled to declare them within a week to the lord under whose jurisdiction they had been found. By so doing, he acquired one half of said swarms, the other half belonging to the lord as waifs. In default of this statement, not only the finder was to restore the swarm, but he was condemned to a fine of sixty *sols*, and if he had found the swarm on the land of another, he was moreover condemned to an arbitrary fine. We possess one curious example of the execution of this prescription. *Claude Roux*, of *Pignoles*, parish of *Sistrieres*, under the jurisdiction of the justices of *La Chaise Dieu*, had discovered a swarm of bees. He had neglected to declare it, and he refuses to pay the right of waifs, to his lord. By a verdict rendered on the 3d of August 1493 by the bailiff, Claude Roux was condemned to the fine and the restitution of the swarm.

As the first bees were found in the midst of the forests, it seemed at first natural to preserve them in their primitive habitations. They were, therefore, lodged in the trunks of trees; later they were put in baskets, of a conical shape, made of rye straw sowed up with splints of briars or of hazel. Afterwards, hives were manufactured by nailing four boards together closed with a wooden or stone cover. Sometimes also, but rarely, the bees were placed in the very walls of farm dwellings, by preparing cavities which

run through the wall and were closed on each side by disks. Fugitive swarms seem to prefer these lodgings to any others.

In winter these different hives were covered with straw mats. In the XVII century the straw hives with their straw mats cost four or five *sols* each.

The apiaries decreased at an epoch which it would be difficult to determine. Let us say, however, that the extreme cold winters of the seventeenth and eighteenth centuries must have destroyed many, as did the past winter. Besides, the collectors of taxes, contributed greatly to this decrease by their habit of taking the hives, when they could find nothing else in the houses of the poor peasants.

Notes AND Queries

"Will you give us your opinion through the JOURNAL, whether Mr. Dadant or Mr. King is right in the matter of there being black bees in Italy."

AN OLD SUBSCRIBER.

We do not see any disagreement upon this point, between Mr. King and Mr. Dadant. The only point discussed seems to be, what they were carried to Italy for. Mr. King merely says he saw them there, and Mr. Dadant does not deny it. He only says Mr. Hruska had received black bees to experiment on the pathenogensis, and these stocks or their offspring, were those Mr. King saw. He also offers a reward for the name of any one who has hybrid bees, *unless they were imported there, from outside of Italy.*

It is conceded that black bees and hybrids are there, and are raised there; "black bees and their offspring."

Therefore the point to be discussed seems to be "For what were they brought there."

We do not care about this point. If any of our readers do, we doubt not Mr. Dadant or Mr. King will answer letters willingly.

Are bees likely to remember robbing six months after committing very successful depredations upon each other. How can we prevent their robbing in the spring, before the flowers begin to yield their honey? We have wintered them on their summer stands, in movable frame hives and so far successfully—as a recent examination, made while giving them a "fly" in the house has proven.

MRS. L. B. BAKER.

Lansing, Mich.

We do not think the bees will remember—there will be very few bees left in the colonies, that were there last summer.

Close all the openings to every hive—before they fly this spring, except space for one or two bees at a time to enter.

If they are in proper condition, and each hive has a fertile queen there will be little danger that they will not defend themselves. Notice our seasonable hints.

I wish you would answer the following questions in the JOURNAL:

1st. Can quilts be used on hives with only ¼ to ⅜ inches space between frame and honey-board? Can same quilts be used on hives when from ⅛ to ¼ inches difference in width or length?

2d. Which is best for quilts, cotton or woolen cloth and how do you make them.

3d. Has C. Muth a patent on his straw mats, and how are they made. I have used mats for year's, made with straw in wooden frames, that leaves a space of about ¾ inches between mat and honey-frames for bees to cluster in, which they always do. Don't you think that is an injury to the bees when they are put on late in the fall?

JAS. E. FEHR.

1st. We would remove the honey-board entirely and let the quilt take its place, until very warm weather; then you can put the honey-board on again if you wish, The size of the quilt is not particular—⅛ or ¼ inch is of little consequence.

2d. We have used both woolen and cotton, and do not see that one is better than the other. If we were making out of new cloth should use cotton, because it is cheapest. Two thicknesses of cloth with cotton batting between them, made the size of the top of hive you wish to use it on, is all that is necessary—quilt it or not, just as you please.

We never heard that Muth claims a patent on his mats. We do not like any quilt or mat that does not lie directly on the frames. We prefer the bees should cluster in the comb.

What is the matter, when bees plant themselves on all sixes at the entrance of the hive, and with hind legs spread out and tail stuck up, they make a noise like a distant spinning wheel, and there seems to be a crack on top of the tails? I thought at first they were, robbers, but I watched them, and some of them did it, when loaded with pollen.

MRS. M. B. CHADDOCK.

We think that in this case the bees were not perfectly familiar with their locations, and were a little in doubt if it was safe to enter. Or it may be they discovered bees about. It seems to be a movement of fear and caution.

How is Rye prepared to feed bees? How many frames would you put in a hive. Would you put bees in a hot bed?

W. M. MOORE.

We feed Rye to bees ground, but not bolted. Put it in a shady place near the hives. It is no use to put it on top of the frame. We would put nine 12x12 frames in a common hive; for extra large, non-swarming hives, twice as many. Let older bee-keepers than yourself try the hot bed.

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☞ As the old stock of honey is about exhausted, all grades command better prices. Comb, 18@22; Strained, 8@11; bee's wax, 27½ cents, dull. Our new honey commences to come in, in June.

STEARNS & SMITH.

A subscriber from Oskaloosa, Iowa, sent us 50 cents recently for subscription, but signed no name. Will he please write again and give us the name.

☞ TO ADVERTISERS.—Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue of the AMERICAN BEE JOURNAL.

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CEDAR RAPIDS, IOWA.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, JUNE, 1875. No. 6.

How to Transfer Bees.

A subscriber writes us to know how to change bees without loss, from the round, log, square gum or common hive to movable frame hives.

As this is a timely question, we give an answer at length.

The best time to do this is about the season of swarming, which season varies with the latitude and climate. In the Northern States, June is the month of swarms; in the Middle and Southern States they come with early and abundant bloom.

About the time when swarms are expected naturally, take the hive which you wish to transfer, and blowing a little smoke into the entrance, remove it a rod or more from its stand, leaving an empty box or hive in its place, into which the bees that are out in the fields may gather. Invert the hive which you have moved, and put over it an empty box or hive, as near the same size and shape as possible, and stop all holes or cracks between the two with grass or weeds that may be at hand, leaving no hole large enough for a bee to escape. Then with sticks keep up a sharp drumming on the bottom hive, at which the bees, alarmed, will fill their sacs with honey and mount up into the upper hive. In from twenty to thirty minutes, most of the bees with their queen will be in the empty box on top. The beginner need not fear driving too many; let all go that will. Then carefully set the box containing the bees in a shady place, and take the old hive back to the place where it stood. While you have been driving, many bees will have come back to their home, and finding it gone, will be roaming in and out of the empty hive in distress. These will at once rush into the old hives when it returns, and gladly adhere to it; then remove it to a location some yards off, when, as it contains many hatching bees and eggs, the bees will at once rear a new queen to replace the one just driven out, and in a short time be as prosperous as ever. Now place your new movable comb hive, with its entrances all open, on the old stand, and spread a sheet before it; on this sheet empty the bees you have driven into the box, and they will at once take a line of march for the entrance of the new hive; if they gather there, brush a few in with a wing or twig, and they will call the others, who will enter in a body and accept the new hives as their home.

You have now a nice swarm in your new hive, which will work as well as any natural swarm and quickly stock their hive. You have besides your old hive, in which the bees are rapidly hatching, and in three weeks they will have a young queen and a goodly number of bees, *but no brood* in the combs. Therefore in three weeks repeat the process of driving out the bees; and after this is done, split open the old hive, or carefully take off the side, and fasten all straight nice pieces of the comb into the frames of a movable comb hive;—a little melted resin will help hold them in place, or they may be kept in place with thorns. Comb need not be rejected because it is old or black, as, if it is straight and free from mould, it is quite as good to rear bees in, or to store honey for their use—indeed, it is proved that old comb is better than new for these purposes. No drone-comb should be put in the frames. This may be known by the larger size of its cells.

Arrange the frames containing comb in in the hive, set it in its place, and empty the bees on a sheet in front, as before

described. They will soon securely fasten the combs, and work on all the better for this necessary disturbance. To the novice it may seem incredible that bees should be thus driven from hive to hive and directed as you please, but it is now done every day through the summer, by hundreds of bee-keepers, who find not only that it may be done without loss but to great profit.

The Attic as a Bee House.

EDITORS AMERICAN BEE JOURNAL:—Having lately been informed by an acquaintance that some of the bee keepers "down east" sometimes set apart a closet or small room in the barn or other buildings, and place therein a swarm of bees without giving it any further attention, and when new swarms come out they form new colonies in different parts of the room; that when honey is wanted it may be cut off—if there be any surplus—and used as comb honey. As I am about to build a barn, please inform me whether such practice is prevalent and profitable; how large the room should be, and how finished, &c. S.
Madison, Wis.

We have seen the attempt made repeatedly to keep bees in a closet, in the attic, on the lower floor of a house and in a room made for the purpose in a barn. But never have known the attempt successful more than one year. It is not true that as swarms come out, they form new colonies in different parts of the room; they go outside when swarming, and if put back into the room, the queen of one of the colonies would be destroyed, if the bees remained there. We have seen four strong colonies of bees put into such a room in June, probably all queens but one were soon destroyed, for the bees all worked together, and there being many of them, comb was built and honey stored very rapidly. The owner was delighted to exhibit to visitors how easily he could open the inner door and take honey whenever he wanted it. By fall, however, the old bees having died off, the colony was not so large, and the next spring only one queen being there with her progeny, the increase was not as large as in an ordinary hive, because there was not as much economy of heat in such a space. The result that year was, that only honey enough was stored to winter the colony, and the next year it became queenless and died out. In other cases, we have known the bees to keep on for several years in such a room giving fair surplus but no increase.

This is a very expensive way of obtaining honey, as figures will show. Suppose a man to obtain from his bee palace an average of one hundred pounds a year for ten years, which would be doing better than they were ever known to do in such a situation, this would be worth at a fair average price for honey, 20 cts. per lb., or $200.00.

Suppose the same swarm put into a good hive, and allowed to swarm every year, which bees may safely do, the increase in ten years would make his number five hundred and twelve colonies, which at $5.00, an average price for bees in this country, would be worth $2560.00. In this calculation no allowance is made for the honey which would be taken in the meantime from all these bees.

Seasonable Hints.

If bees have been taken care of as we have suggested they are now, in spite of a spring more cold and unfavorable than we have ever known, in good condition. By this we mean that their hives are full of brood and young bees, and they are in just the state to make the most of the abundant bee pasturage which is sure to come, during June and July.

There are two classes of bee keepers—the one class desires to increase their number of hives as fast as prudent, the other wishes to receive the greatest profit from the bees they now have, and cares little about increase.

For these classes different ways of management are necessary.

If increase is the object, it can be secured better far by division than by allowing natural swarms to issue. Those who have empty comb, can do it much more rapidly and safely than those who have none.

Suppose you have ten colonies strong in brood—on Monday you take a comb of brood each from nine of them, place the combs in order in an empty hive and move your tenth hive a yard or more directly back of where it first stood, and place the one just filled in the exact spot you take number ten from. You put empty combs in the places of the

ones taken from the nine hives: you can repeat this operation every other day as long as you have empty combs to give, but if you have no combs and are compelled to put an empty frame in place of the full one, so that the bees have to build comb, we would not advise repeating the operation oftener than once a week.

In this way you can increase your colonies very fast, if you have provided queens for the new ones in nucleus hives as directed last month—being careful to feed sugar syrup liberally in all rainy weather or when honey is not secreted in flowers.

If this way is considered too troublesome, you can divide each of your ten colonies at once in a way we have often described as nearly copying natural swarming. It is this: "Take from a hive a frame of brood and the queen. Put them into an empty hive, filling the space in the new hive with combs, if you have them; if not, with frames. Set this just where the old hive stood—moving the other three or four yards away from it. You then have in the new hive the queen with the main force of bees able to work and they will fill up so rapidly that in three weeks you can take combs from it to form new colonies. The old hive, even if compelled to rear a queen for itself will do well, as it retains most of the brood, and if a queen be given it, you will find it soon in condition to spare combs for new colonies.

To the second class, those who wish for the greatest amount of honey, we can only say: Use the extractor and in this way keep the hive supplied always with empty comb. You will then have no trouble about swarming. If you wish for box honey, still empty combs below with the extractor often, keeping the boxes on and the full force of workers in the hive. There is no surer road to profit than this, if your colonies are strong. These rules apply to the swarming season whether that comes in April or May, as in the South, or in the month of June, as in this latitude, or in July as it does in sections farther north. In July number, our "hints" we hope will guide to successful management later in the season.

The A B C of Bee Keeping.

We often receive letters from those beginning to keep bees, complaining that we are not plain enough in our directions and asking that we give the "A B C" of bee keeping. To all these we answer that we try to make ourselves understood, and to give, each month, hints adapted to all who have not more knowledge on the subject than ourselves, but if we were to adapt ourselves to the comprehension of those who are just beginning to keep bees, we should find room for little else. For these there are text books and works on bee keeping that make matters simple and easy, and these are sold so cheaply that no one should own a colony of bees, without buying one of them. This journal, while it seeks to give information on all points connected with bee keeping, cannot in any sense take the place of a book for beginners.

Notes and Queries

Which is the best knife for uncapping, without heating the knife?

Winder & Murphy both have knives that uncap nicely in warm weather without heating.

I want to know how I can secure frames filled with straight comb?

That is my great desire, for this season I have ten good colonies, but no spare comb.

E. B.

There is no way so sure as to put an empty frame into a strong colony between two straight combs in this month. Move the combs apart the right space and put your frame in, and keep on removing combs and putting in frames. You can use this comb in building up other colonies as directed in this number. Bees are natural enough to "abhor a vacuum," and space thus made will be filled as speedily as possible.

1st. Does the bee make honey that is poisonous? If so, what season of the year, and what flower or flowers is it made of?

2d. What is your opinion of the orange flower for honey? also yellow jasamine? We consider the yellow jasamine a very poisonous flower.

3d. Is the swamp magnolia a good honey flower? Also the queen bay.

What is your opinion of the swamps and glades of Florida for an apiarian? Are summers too hot? Are they too long? giving the moth a longer time to do its destructive work?

4th. Is it necessary to give bees salt? If so when, how often, how much, and for what is to be given?

By the way, we have in this region a new (to us) enemy to the worker bee. It is a large fly or bee. It resembles a hornet in some respects, and bumble bee in others.

It has, I think, six legs; two are used as catchers or holders. The legs are fuzzy or hairy and long. It secrets itself on a limb, rail, or anything to rest on and hide. A grapevine is a great place for them to hide on and as the loaded bee comes home, the fly darts at the bee like a hawk would a chicken and gathers with his two grabbers, or front legs, and holds it fast, then bores his long bill into the bee and pumps out the honey, lets go of the bee and takes his stand for another. I don't know whether the bee dies or not.

As he is a new comer against us, and without a home, name or reputation to recommend him to us. I have given him the name of a good many representatives who come among us without a home or letters of credit to pierce us with high taxes, and after they have got all, to leave us to bleed and die. The name I think being appropriate, It is "carpet bagger."

Will this name do? Have you a like enemy of bees with you? If so, where did it come from, and how must we manage to destroy it? J. W. M.

We have no poisonous honey at the North and no reports, as yet, of any stored at the South, and our own opinion is that bees do not gather anything poisonous. The orange blossom is reported as rich in a delicious honey, have never tasted it. Yellow jasamine is also named as furnishing some honey, but of peculiar flavor. We hear little about the other flowers named. Will some Southern bee keeper report? We believe nothing but bees are necessary to make the glades of Florida as famous for honey as Southern California. Salt is given to bees, and they take it. We cannot say that it is necessary. Some of our best bee keepers do not use it. We never have heard of the insect you describe, but are greatly interested in your account. Will Prof. Riley or Prof. Berry look into this "carpet bagger" matter and report.

In the JOURNAL, I see directions to close all upward ventilation in honey board as soon as the severe winter weather is over, but I also see that the best way to feed is from the inside of the hive, how can both be done? Also to keep them well supplied with water. I have tried giving it to them from both in and out side of the hive, sweetened and without, but I cannot get them to take that all, though I see them apprently hunting it in damp places. Mine are in a box hive with movable frames, but through ignorance the frames were put too near together, and they are now one solid mass, but a strong swarm and as cross as bees can be, I cannot make them anything else.

I lost a nice swarm in the winter in a Langstroth hive, for this reason—I cannot feed them under the honey board. Am now feeding in sugar syrup put on sponges, which is the most satisfactory way I have yet found. Will it do to stop feeding as soon as the first bloom, such as box wood and Missouri currant comb. Everything is very late, but I see they are carrying some pollen now.

Do you give alsike clover seed this spring? Is it as good for stock as the common red clover, and how late will it do to sow?

How late in the month will it do to send, that it may be answered in the next No.

London Grove. JANE MAULE.

All ventilation can be closed by a quilt laid over the frames. When bees are to be fed, on top of the quilt, a small hole can be made in it through which the bees can pass to the feeder. Some of the feeders are made so that a small pipe goes into a hole in the quilt through which the bees seek the food.

As your bees do not take the water, they probably get it in some hollow log, or a springy place. They prefer it in that way when they can get it.

We would advise you to transfer the bees from that hive where the frames are too near together, as soon as honey is abundant.

We would feed the bees in bad weather until white clover comes. They get very little honey in the early bloom that you name, probably because at that time the weather is not favorable for the secretion of honey.

We do not give alsike seed away this year. It is considered even better than red clover for stock.

Queries ought to reach us by the 15th of one month to be answered in the next number.

MRS. TUPPER: The bees I purchased of you a year ago have done well. They increased to three very large swarms last year, and gathered about 28 lb of honey each.

I put them in the cellar under our living room, Nov. 14, and took them out the first week in April. There was about a pint of dead bees on the bottom of each hive. They had used only 5 lbs. of honey each. They are increasing rapidly now and gathering honey. I found another colony yesterday. The progeny of the queen you sent me seems to be true every time, three gold bands and no degeneration.

I don't feel quite satisfied with the hive I have. It is better adapted to brood raising than storing honey, I think. It contains 9 frames 12x12 inches, but the bees show signs of swarming when full below, rather than work in boxes. J. L. FRENCH.

We are always glad to hear good reports of the bees we send out, and are sure that will be the case if care is taken.

The hive we sent them in, is, in our opinion, the best made, either for box honey or for the extractor. You must have brood raised if you wish to get honey; and hive adapted for brood raising is what you want. Put the boxes on early this year, fastening comb in each one; when they begin to work in one box, put on another, and give the queen room for broods by using the extractor, or taking out a comb often. There is no better hive than the one you describe.

Bee-Men in Council.

KALAMAZOO, May 6th, 1875.

The second semi-annual session of the Michigan Bee-Keepers' Association convened in Corporation Hall at 2 o'clock p. m. President Bidwell in the chair.

The Secretary read a report of the previous meeting, which was read and then approved.

After the transaction of business relative to the affairs of the Association, the programme of the session was taken up. The first topic, "Wintering Bees," was introduced by a paper from Frank Benton, of Knoxville, Tenn., read by the Secretary. The advantages accruing to the "Sunny South," as a winter resort for the apiculturist was considered at length, with the conclusion that the migratory system of bee-keeping might be made both pleasant and profitable. The paper elicited considerable inquiry relative to the cost of transportation and other necessary expenses when the topic was discussed at length.

T. F Bingham—I put 150 stocks into winter quarters in January. When put in, the combs were frosty and soon thawed out, creating a bad smell, reminding one of the old dysentery times. They commenced to dwindle down, and when carried out in March, I had 113 in good condition. Have a distant hope of saving two stocks, my present number.

A. C. Balch—Did your bees commence rearing brood in winter quarters?

T. F. Bingham—They did, largely, as I have always found them to do when they die of diease. I winter in a house above ground, ventilated above and below; temperature from 7 to 45 degrees above zero; bees did not die in the hive. When they die out of doors, I find them in a cluster in the hive. Had abundance of honey in close proximity to the bees.

C. I. Balch—Did your honey granulate?

T. F. Bingham—It did not.

H. E. Bidwell—What kind of honey did you winter on?

T. F. Bingham—Boneset, mostly. The quality was very good; at least, people in Chicago like to buy it in glass boxes.

L. H. Albright—Winter in an out-door cellar, in eight-inch frames. They have all come out in good condition. Put them in December 1st; give hives no upward ventilation; leave entrance open below; do not disturb the bees after putting them in; temperature above freezing.

A. C. Balch—Did your bees have brood when set out?

L. H. Albright—They did, especially the stronger colonies.

H. E. Bidwell—Are your bees black or Italians?

L. H. Albright—All black bees.

A. C. Balch—Do you extract honey?

L. H. Albright—Never. Raise all box honey; sources of supply are white clover, basswood and boneset principally.

A. W. Davis—Do you get any raspberry honey?

L. H. Albright—Not of any account.

H. E. Bidwell—Bees use raspberry honey in rearing brood, seldom storing it in the combs.

Julius Tomlinson—Will the President give his experience in wintering in the cold-frame.

H. E. Bidwell—I wintered 80 stocks in cold-frames, and am only sorry that I did not winter them all in the same manner; left the balance on summer stands; they wintered well but didn't spring well, as they "got sick."

Julius Tomlinson—How often do you allow them to fly in winter?

H. E. Bidwell—Once in two weeks; keep the temperature above freezing point: have discovered but one case of dysentery in the cold-frame.

Julius Tomlinson—Had 26 good colonies last fall in five-inch hives, two sets of combs; wintered out-of-doors and they have dwindled down to 15; much of the time they were well banked with snow.

H. E. Bidwell—Did they occupy the upper set of combs?

Julius Tomlinson—Some did, others did not; bees mostly black and hybrid; had plenty of empty combs for bees to cluster in.

Ezra Rood—I have wintered in a great variety of ways; used to succeed admirably in nearly all ways; now they usually die; had a good cellar, dry and well ventilated; mercury stood at from 42 to 45 degrees: the atmosphere was pure and good; lost three-fourths of my bees in the cellar; used to think that I could "run bees" to my satisfaction, but now—run them into the ground; its a disease—dysentery—that kills our bees; don't think that cold weather raises the mischief, as bees are wintered in Russia and other cold climates without material loss.

H. E. Bidwell—Did you give upward ventilation?

Ezra Rood—Some hives I did, others not; saw no difference in results.

E. J. Oatman—How was your cellar ventilated.

Ezra Rood—By tubes running above in each corner; also have the bottom ventilated.

E. J Oatman—Did you keep a record of the temperature?

Ezra Rood—Yes, and am very careful not to let it go below 40 deg. or above 45 deg.; but suppose it should freeze in the cellar? If the mercury did not go below 20 deg. even, we should not regard cellars of much value.

E. J. Oatman—Extracted stores in August and fed 25 pounds of sugar syrup; put quilts on top and at end of frames; when cold weather comes, put them in the cellar and keep them quiet. Do not put them out in spring until warm settled weather. If cold comes again, hustle them in again; leave off cap of hive but give no upward ventilation; mercury ranged from 32 to 46 deg.; lost eight out of 110 stocks; prefer sugar syrup to honey, and old to new combs for wintering.

T. F. Bingham—Your stocks had young bees in the fall?

E. J. Oatman—They did; especially those that built new combs late, and died the worst.

T. F. Bingham—That hurts the "old age" theory. How have your bees "springed."

E. J. Oatman—Well, for the most part. Have had to double up some of the weaker ones.

T. F. Bingham—I have doubled up over a hundred.

E. J. Oatman—We did not double up in that style. Was obliged to reduce six stocks to one, however—bees that were put in the

cold-frame and bumped their brains against the glass. Stocks that were perfectly healthy when put into the cold-frame hadn't a single bee left in less than two weeks.

Julius Tomlinson—How would it have worked to put bees in the "frame" in March and allowed to fly?

H. E. Bidwell—I tried about 80 at that time and injured them. Do not think it advisable. They should be put in in the fall.

Julius Tomlinson—Would not a single tier in a narrow frame be better?

H. E. Bidwell—I think it would be as well, perhaps better.

James Heddon—I have tried the cold-frame. A tree shaded one corner, and the bees tried to get out and cluster upon it. I think there should be nothing above the frame, except blue sky.

E. J. Oatman—Would the glass placed in a horizontal position give enough heat?

H. E. Bidwell—It would not.

James Heddon—Have had much trouble in having bees cluster on the glass in the cold-frame.

E. J. Oatman—By putting mosquito netting on the under side of the glass, I prevented clustering on the glass, and all attempts to commit suicide by bumping their brains out against it.

James Heddon—Have wintered fifty-one swarms in good condition and am at as much of a loss to know why, as I was when I lost so heavily, heretofore. I set them out in March, and they had a good two days fly. Think a partial fly only an aggravation. Credit my success in a measure to the Italian bee. Do not think that rearing brood early is desirable. It expends the vitality of the bees without a proper recompense. Do not use any quilts whatever. Prefer a good, plain board. They are less cumbersome, and I think, just as good. There is something more important than quilts that is at the bottom of our success. The same is true of ventilation. I have stocks in hives that are badly cracked, so that it snows and rains in them, yet they are strong and healthy. They are tough and you cannot kill them.

C. I. Balch related instances of how bees have wintered well in one season and nearly all died in others, under the same apparent circumstances. How can we account for it, unless it be a disease?

The next topic, "Building up Colonies in the Spring," was then taken up.

T. F. Bingham was called upon to give his experience. He said that in consequence of having met with a serious calamity, his usual buoyancy of spirits had departed, and he did not feel like talking. It's no use to build up colonies, except to have them die.

E. J. Oatman—Has any one used quilts stuffed with bran, on hives?

Julius Tomlinson—I have, and find they accumulate considerable moisture, especially at times in spring.

T. F. Bingham—I would advise you to send that item to *Gleanings*. A. I. Root has been trying to invent a watering-trough for his, and this, no doubt, will fill the bill. It can be used in connection with those beautiful tin corners. 'Tis just the thing.

A. C. Balch related his experience in rearing queens. Preferred to remove a queen from a full colony, and when the cells were nearly mature, insert them in other colonies. Queens should be started from larvæ not over two days old, less would be better. Exchanging combs is better than cutting out queen cells. Early in the season is a much better time than later.

C. I. Balch stated that he had eggs removed from inserted comb to other combs developed into queens. Some were very good, were prolific for nearly five years, while others were valueless. Have raised queens in October that proved hardy and prolific. There is a vast difference in different strains of stock. The only way to winter successfully is to make good woolen shirts and drawers for the "pets."

E. J. Oatman gave his experience in detail in getting worker combs built in the fall. Remove all brood combs except two or three containing capped brood, and fill up with empty frames. Fed a quart of syrup to each hive at night. Fed 500 pounds of C sugar, and obtained worker combs, 11x12 inches, at a cost of 20 cents each.

C. I. Balch—It has been stated as requiring 25 pounds of honey to make a pound of comb; Does it require as much syrup?

E. J. Oatman—I cannot state; only two or three hives built any drone comb.

A. C. Balch—Did the bees have any drone comb when they commenced building the comb?

E. J. Oatman—They contained none.

T. F. Bingham—Were the bees gathering honey at the time?

E. J. Oatman—Enough for breeding purposes, but not to store any.

Julius Tomlinson—What is your experience in getting comb from honey as gathered by the bees?

E. J. Oatman—Anything but satisfactory; have always got a too large proportion of drone comb. They do not build near as rapidly as they do when fed on syrup.

Julius Tomlinson—By taking away all full combs of honey I got worker combs built at one side of an upper story.

T. F. Bingham exhibited specimens of artificial comb, made of paper and coated with wax. Bees store honey in it readily.

C. I. Balch—Will they brood in it?

T. F. Bingham—I didn't ask so much of them.

James Heddon—I want to get an artificial comb that the queen won't look at, even. Such a comb would be valuable.

T. F. Bingham—To get honey, use a box to hold three combs, keep black bees, be careful to commence on the right day of the week, observe the changes in the moon, and if it rains honey and the bees don't get their backs up, we are all right; but if they do, ours are down.

A committee of three, consisting of James Heddon, T. F. Bingham and H. A. Knapp, were appointed to draft resolutions, when the convention adjourned until evening.

EVENING SESSION.

The association was called to order promptly at 7½ o'clock, President Bidwell in the chair. The first topic, "Extracted Honey," was introduced by a paper from James Heddon, of Dowagiac, who took the ground that we ought to discourage the production of every single pound of honey which costs 30 cents to produce it, that will be a drug on the market at 15 cents. He also urged that we should pay more attention to developing a good, reliable market for our products. The relation of the producer to the "exclusive" honey dealers in cities, was considered at length, with the conclus-

ion that if we are to make money in the apiary, we must get our surplus in small glass boxes, instead of waxed barrels.

T. F. Bingham—Dadant says that if honey candies, it's pure, but we can't always wait; glucose is made from starch, treated in a retort, with sulphuric acid; this can only be removed with lime; the addition of water will lessen the acidity; substances containing tannin added to it will turn it black, but not good syrups.

A. C. Balch—According to good authority our "golden-drip" syrups are largely adulterated.

James Heddon—All honey contains acid—formic acid—as is fully demonstrated by analysis.

Julius Tomlinson—Extracted honey is finding favor in my home market, though for profit, box honey is the thing.

A. C. Balch—Even if we are compelled to use liquid honey in making vinegar, it will pay; even for the good of the bees, especially in times of great honey secretion.

James Heddon—Extracting honey to give room in the brood chamber, is giving room for more honey, rather than more brood. While Italian bees are inclined to store honey in the brood chamber, we can coax them to store honey above and out of they way. Black bees are much better, however if we can only induce them to survive our awful winters.

E. J. Oatman—What would your black bees do in a "tough" honey season?

James Heddon—About as well as Italians, better early in the season.

E. J. Oatman—In times of scarcity I have had Italians rear abundance of brood and store a little honey when the blacks were losing ground.

Julius Tomlinson—I think Mr. Balch is right about the value of the extractor in keeping the brood-chamber clear of honey.

James Heddon—And keep your surplus out of the honey boxes at the same time.

A. C. Balch—Though bees don't know much, they are not fools altogether. Honey in the hive is detrimental to brood rearing in summer, and too much of it, to success in wintering. They will store it in the brood combs in excess of what is best for their own welfare.

H. E. Bidwell—If your combs get full, raise them up and let them store in empty frames below.

A. C. Balch—And always get drone comb.

James Heddon—If I am to get box honey, and they are bent on storing in the hive, then it follows that I must wait till the hive is full below before they will store above, when I haven't the bees to do it? Such logic hurts my theories of obtaining box-honey.

T. F. Bingham—We are told that the Extractor will save our bees; but, practically speaking, our bees have all gone to—well, a warm climate. Years ago, before there was any such thing, bees wintered well. Oh, that beautiful "honey-slinger."

James Heddon—Will Mr. Burch state if he is able to keep his combs full of brood and get honey stored in boxes without the aid of an extractor?

H. A. Burch—Even Italians, properly managed, will keep the brood below, and honey above, in boxes, and two, without any aid from an extractor.

A. C. Balch—If for no other reason than obviating troubles with the moth, I should prefer the Italian bee.

T. F. Bingham—I hope the President will rule out this Italian bee question. I have been maligned, abused and churned for daring to say a word derogatory of their merits. If Dadant hears of it he'll give us poor fellows "Hail Columbia." Let us avoid this mellow subject altogether.

James Heddon—Mr. Bingham should remember that he is at perfect liberty to express the opinions of the majority—*not* the minority.

A. A. Knapp preferred a hive that would admit of removing frames in the rear; thought preferable to lifting out of the top; frames are a foot square.

James Heddon—I once saw a hive on the "lake shore," while visiting H. A. Burch, that the frames came out at the rear; 'twas a nice rattle trap; it wants 26 yoke of oxen to remove frames when the bees stick them fast; have had "hive" on the brain; tested other people's hives, and experimented on my own delusions.

A. C. Balch—How would you swarm "artificially?"

J. Heddon—Drum out swarm, and put it on the old stand, removing the old hive; Use a shallow drum box with slats on the open side, and be sparing of smoke.

A. C. Balch—Oftentimes the queen don't want to go.

James Heddon—But we make them go; can get them in this way much easier and more speedily than by hunting for them. To be of value a process or implement must possess more advantages than disadvantages.

The subject of making a display of our products at the Centennial Exhibition was considered at some length. Various opinions were expressed, when the subject was finally committed to the charge of the President to act in the best interests of the Association.

T. F. Bingham read a paper on the requisites of the successful apiarian. The subject was considered from a facetious standpoint, causing considerable merriment.

A. J. Pope gave a description of Seth Hoadland's device for hiving bees. He also related instances of making bees cluster wherever desired by whistling for them.

Ezra Rood—I also tried the whistle—a regular pig-tail quirl—but failed to strike the key-note.

A member—A cluster of mullen heads attacks them quite successfully.

James Heddon—I wish to call attention to these honey jars from Charles Muth, of Cincinnati. They give the honey a nice appearance, and Mr. Muth is a perfectly honorable dealer, and liberal withal. Those in want of jars should patronize him.

H. A. Burch exhibited a sample of a very neat glass honey-box, made by C. R. Isham, Peoria, N. Y., which attracted much attention. It was universally admitted to be the neatest thing of the kind yet devised.

Considerable discussion followed, mostly of a desultory character, on topics, which we omit, the main points being embodied in the report of our last annual meeting.

Mr. Bingham, as chairman of the committee on resolutions, reported, tendering in very appropriate terms our heart-felt thanks to the good people of Kalamazoo for the many favors which we, as a society, were

indebted to them for, which was unanimously adopted, after which the Association adjourned to meet in Kalamazoo the first Wednesday in December, 1875.

HERBERT A. BURCH, Sec'y,

Bee-Keeping and its Interests.

The following paper was read before the Outagamie Agricultural Convention, held in Bertschy Hall, Thursday and Friday, March 4th, and 5th, by A. H. Hart:

Mr. President, Ladies and Gentlemen of this Convention.

The subject given me for discussion before you at the present time is of so much importance, it seems a pity it was not assigned to some one better qualified to do it justice. Why I say of so much importance, because I consider the little insect and its products amongst the greatest blessings bestowed by our Heavenly Father on the human family, and yet perhaps there is no one more neglected or less appreciated. Perhaps I ought to say in America; it may seem strange that I make the exception, it is nevertheless true, that while improvements in most of the arts and sciences in this country exceeds many other civilized countries, yet from history it seems that most of them are far ahead of us in the science of Bee-Culture, and they are not as far advanced as they were centuries ago, if history tell us right. Bee-Keeping never flourished in any age of the world as it did from 1200 to 1600. During that time the true value of honey for food and medicine seemed to be well understood, or better than at any other time previous or even since, we may go back to Bible times and learn some thing of the value of honey as food and medicine also for religious ceremonies. It was used to pay tribute, among the first fruits for sacrifices, the Greeks and Romans brought honey as an offering to their gods, and every animal sacrificed on the altar was sprinkled with honey, it was used for embalming their dead and to sprinkle on their graves.

The Bible tells us in Genesis 43—11, honey was among the first fruits sent as a present to Joseph in Egypt by his Father, and Leviticus 2—11, honey was an offering but not be burned on the altar. Judges 14—8—18 Samson, Bees and honey he found in the dead lion's carcass, we all know what a disturbance Samson made among the young Philistines. There are some very singular passages in the Old Book. I will not take up your time to refer to but a few. Isaiah says a child shall be born, and his name shall be called Emanuel, Butter and Honey shall he eat that he may know how to refuse the evil and choose the good.

Matthew says another prominent personage was coming, whose food should be Locusts and Honey, we might infer from the language used that honey was a very efficient agent in the development of the intellectual organs. Numerous other passages might be spoken of, but we will leave them for you at your leisure to look up if you wish. We gather from history that about the 12th to the 16th century, Bee-Keeping was fostered by the government in which it flourished; in some countries it was fostered by the crowned heads, and their forests were called Bee-gardens. In some countries Bee-keeper's Associations were organized, and by paying large tributes were licensed to Legislate for their order: a member joining the order had to pass an examination, to see if he was qualified for a Bee-master, to use their phrase.

The disposition made of Honey at that time was as follows: First, second and third qualities—first quality was used for medicinal purposes and was hermetically sealed and kept for that purpose. No. 2, was used for culinary purposes, and was the principal sweet for food. No. 3, was the poorer quality, and used for wine making. The question might arise here, Why has Honey lost its honored place in the medicine chest and on the table? I might answer the question by asking another. Why has the cultivation of flax on almost every farm, and the nice durable fabrics in almost every farm-house manufactured by skillful hands, I say, why has all this lost its honored place? The answer is easy, cotton, and the cotton gin, will tell the story, the linen manufacturer could not compete with the cotton manufacturer and gradually lost its place. Now, if a process was found whereby linen could be produced cheaper than cotton it is easy to what the result would be. A similar condition of things took place about the 16th century. Sugar cane was extensively introduced so that it became the principal sweet. The Honey producers could not compete; the organizations went down; the farmers no longer considered it a very necessary article to raise; they ceased to raise bees extensively. Those that kept them, or dealt in honey were inclined to adulterate it *as some dealers are now doing.* Consequently, the value of it was lost as a medicine, and finally it settled down to an article of comparative little value except as a luxury and *as sweet can be used too freely* the Old Book says it is not good to eat much honey, it is like other sweets taken too freely. Housewives with a little experience can tell you its value for food. But where is the man or the doctor that prescribes or druggist that puts up the prescription and uses honey as a part of the same, can tell you what the medicinal properties are of the honey generally in the market, and unless understood can the prescription be considered judicious. It is known that honey as gathered from the blossoms contains the essence of the medicinal properties of the herb, plant, or tree, that is gathered from and may contain a considerable narcotic, emetic or cathartic properties, and unless understood it is not safe to prescribe. Our ancestors, if we may call them so, understood this. They knew the quality of their honey and for what diseases should be used.

But perhaps there may be some doctors here that may think I am crowding the profession a little. It is not my wish to expose the ignorance of any man or class of men. I stated in my remark at the commencement that according to the history we had, honey was better understood for medicinal purposes from the years 1200 to 1600, than at any previous time or were since. But I have been showing you the darkest side of the picture. Now for the other; Bee men have reason to feel as St. Paul did when he came in sight of the three taverns, to thank God, and take courage; the signs of the times indicate a great reformation. The new process of working bees has already disturbed

the equilibrium of the sugar growers, in the State of Louisiana. There is already considerable inquiry how they can grow more sugar at the same expense, or to use their own language, "get a higher price or become bankrupt," a statement to that effect I saw in Louisiana paper. Now you may think me wild to assert that if the people were educated in Bee-Culture and were willing we could go into competition with Louisiana in producing sweetning at their prices. Even now in California quotations go below the prices on Louisiana sugar or syrup *and yet bees have hardly been introduced there.*

Formerly in Louisiana they had their labor performed very cheap. It costs more now; they must get more for sugar or go up the spout—their language. Our laborers work for nothing and board themselves; we only furnish them house rent. As Bee-keepers we have found out how we can produce the largest amount of honey with the least outlay—the sugar planter has yet got that problem to solve. We have our national association in good running order, state organizations doing work, country organizations to some extent and more in expectency, all calculated to forward the cause. Then again, we are blessed with the best standard works on Bee-culture. Journals by the dozen advocating and enlightening, with the experience of the best bee-keepers in this country, and from the old world. Besides state, sectional and country agriculture societies are offering more inducements at their annual gathering for the exhibition of apiarian products, and occasionally an opportunity is given for bee men to show up their cause in the best shape they can, at agricultural conventions.

We have, also, tested the different kinds of bees and found which are the best producers. We have an abundance of forage all over our vast domain if we wish to improve upon it. We have practical men in the business that we can pattern after—take one, for example, viz: Adam Grimm, if you please, and what he has done in bee-keeping others may do. He has made a fortune in a few years. He reported his product for 1874, amounting to $4,700, at the depot in Jefferson, besides several hundred pounds retained at home.

We have a report from San Diego county, California, that that county produced 400,000 pounds last season. No more than our county might do. A neighbor of ours bought last spring 16 swarm—increased six—and took 3580 pounds of honey, five hundred of it box honey. Your humble servant took 1205 pounds from six swarms, and four swarm increased. I would state that we both had the advantage of empty cards of comb, but an unfavorable season at that.

I have spoken of the bright side of our cause; but there are some dark spots on its surface, those done away with, and our success is nearly complete. We loose more bees during winter than by all the other disasters put together. Where only a few swarms are kept this evil need not be experienced, but on a larger scale it is somewhat expensive and a little uncertain.

Another difficulty and much the worst to overcome is to educate the masses that undertake to keep bees. I will state a case that will illustrate the condition of nineteen-twentieths of them. I was invited to talk to a gathering of bee-keepers in the State of Ohio; there was present some thirty. In the course of the meeting I was criticised quite closely, and when it came my turn to question, I asked, 1st, Has any of you got one of the Elementary Books on Bee-keeping? Ans. No. 2d. Do any of you take either of the Bee Journals published in the United States? Ans. No. 3d. Have any of you ever attended a Bee-keeper's Convention? Ans. No. 4th. Have any of you ever been humbugged by patent bee-hive venders? Ans. Yes, all of us. I told them they were just the subjects to be operated upon, in their ignorance.

Well, the result of that meeting was the organizing of a county society, and I sent for several bee-journals for them and occasionally now some of those members have articles in the journals giving their experience in Bee-Culture, that are very instructive and interesting.

Not long ago a gentlemen of the humbug patent hive stopped a few days in this city advocating a theory that the comb was not built by the bees, but was a fungus growth while the bees were gathered in festoon. He cheated several prominent gentlemen out of several hundred dollars on account of their ignorance of bee-hives.

It seems almost impossible to induce old fogy bee-keepers that are full of prejudice and superstition, to take a journal. It reminds me of the old Deacon that was a great stickler for the doctrine of election and reprobation—claiming that infants not elected must be lost. A friend of his, endeavored to prevail on him to give up such an eroneous idea. In reply the old Deacon said, I think it safer to rely on old established errors than adopt new truths.

Another quite a serious drawback on our cause, is the amount of adulteration going on that militates against the sale of the pure article of honey. It had been known for a number of years that syrup and honey had been largely adulterated, and at the national bee-keepers convention in 1873, the subject come up for discussion, which resulted in the appointment of a committee to investigate the matter and report at the next annual meeting to be held at Pittsburgh, Nov. 1874. The report of that committee showed that a large establishment in New York and another in Chicago, were engaged in manufacturing and distributing through the country a spurious article calling it honey. It is put up in cans with a piece of honey comb shown through the glass of compound composed of ⅓ honey and ⅔ glucose, an article manufactured largely in France from dried grapes, starch and refuse fruit, &., &c. Those gentlemen adulterators buy and ship the article at a cost of about 6 cents per lb. Thus you see persons buying it that are not judges prejudiced against extracted honey and prefer to buy it in the comb when the facts are that extracted is in reality worth considerably the most, especially if separated at the time of extracting and canned and numbered according to quality. I will mention a case that you may see wherein bee men may suffer by the adulteration going on.

J. B. Harbison, the man that took the first bees around the Isthmus to California, is now the greatest bee-keeper in the United States, had this season two thousand swarms and shipped twelve car loads to Chicago and New York; at New York the adulterating gentlemen had the frankness to say to him, he would by his comb honey but did

not want his extracts for he could manufacture a cheaper and better article himself. So you can see something of its workings.

I have spoken of the encouragement we are getting from the different societies in the State, and this is nothing in comparison to what it ought to be. Look at the State of Michigan, and see what is going on there—no better honey producing district than Wisconsin. I think not as good. In their State Agricultural College the science of apiculture is taught as one of the branches of education. Its influence is being largely felt. There is probably more interest taken in honey-producing by the people generally than any other State in the Union, I might almost say than all the States; but, perhaps, that would be saying too much.

Now as to the condition of things in Wisconsin, for a number of years previous to '67, the State Agricultural Society offered quite a number of premiums to our fraternity, viz: on honey, hives and handling of bees. There was generally a good exhibition of honey and hives from which bee-men had the chance to compare and judge of the merits. But the handling of bees, for which the Society awarded for several years a *Silver Medal*, if we might exclaim, Oh! Humbug of Humbugs! Bee-charm and bee-handling was carried on until the man himself became disgusted with his own proceedings. The society withdrew this encouragement to apiarianism, down to a premium of two dollars on box honey. The consequence was that the bee and honey interest was poorly represented, but in looking the matter over, the society in their generosity has for two or three years awarded more liberally, for which bee-men are very thankful and larger favors will be gratefully received.

Now, in conclusion, I will say to those contemplating going into the bee business, that I know of no kind of employment that you can undertake that will yield you a better profit from the capital invested than bee-keeping with proper management. And on the other hand I know of no other employment you would loose your money sooner with bad management, for be it understood that negligence in bee-keeping is sure failure. I may be asked the question, for it is a very common one, what kind of a hive I would recommend, the movable frame hive.

That you may satisfy yourselves as to the best hive, ask General Adair, of Kentucky. He will tell you that the New Idea Hive is the one; that is only along one story, with sectional frames for comb building honey is the best—backing it up with his book, the annals of bee-culture. Or you may ask Jasper Hazen, of Vermont. He will tell you the Eureka Hive is best; because you can run it exclusively to box honey, and get more than any other hive, and is a non-swarmer. So you may ask Gallup, and he will tell you that his Twin Hive is the best, because it works on the New Idea plan of Adair's. And you may ask Novice or Root, they will tell you that the two story, Langstroth Hive is the best, because it is cheaper to work with the extractor, and will back it with his Gleanings, published once a month. You may ask Mrs. Tupper, she will or would a year or two ago say, that the Tall or American Hive, invented by H. A. King, was the best, seconded by H. King and backed up by the bee-keeper's Magazine.

I might refer you to numerous other hives that have been offered to the public but many of them without merit, but if you ask A. H. Hart what hive he thinks best, he will tell you the High Pressure, most assuredly, because of its simplicity, the ease with which it may be put in shape to work on either or all the other plans proposed in the other hives mentioned, and will back up his assertion with his circular that any of you can have by calling on him at any time during the convention or by afterwards writing.

One thing bear in mind, that a hive to fill the bill must admit of largely breeding up in the spring early—an easy adjustment of cards, that will admit of contracting or expanding to suit the size of the swarm, so no idling is done, a non-swarmer at will, simple and cheap in construction, etc., etc.

For the American Bee Journal.

Purity of Italian Bees.

In answer to Mr. Argo, who says, in the last number of the AMERICAN BEE JOURNAL, "If Edward Uhle is in Italy, then Uhle's queens, according to Dadant, are pure Italians." I have never received a queen from Uhle that was not a hybrid, and I will say that since Ed. Uhle is in the bee business, on his own hook, he inhabits Tyrol.

Tyrol is an Austrian Province, situated at the north of Adriatic Sea, and encircled with mountains on every side, but a small part, by which the river Adige runs from it into the sea.

To send pure bees, Uhle had to raise and to test them, with the same care, as we do in this country. No wonder, if so many American bee-keepers have no confidence in the imported queens; they were deceived by the European bee-keepers, who, except in Italy, are never sure of the purity of their stocks. Since they are, the same as in this country, surrounded with black and hybrid bees. In Italy, and in Italy alone, the bees are of undoubted purity, since there are no others there than pure Italian bees. CHARLES DADANT.

Shall We Continue to Import Bees.

A PAPER READ BEFORE THE MICHIGAN BEE-KEEPERS' CONVENTION.

Much has been written and said about the Italian Bee. Parties interested in their sale have imported often and done much to induce bee-keepers to believe they were superior to the common or black bees.

Various theories have been promulgated, from time to time, as circumstances required, to keep up the interest and augment their sale.

Such for instance, as that they would gather honey from red clover, and other like exceptional sources of honey supply.

Without presuming to affirm or deny the truth of these claims, I shall proceed to give some of the reasons why it is not judicious for us as honey raisers—which I presume we are—to encourage this promiscuous and constant importation.

The first is that there is great danger that we shall import with them the parasites and

diseases which have, or may exist in the country, they have so long inhabited.

To the casual observer this may seem of little moment, but when we realize that by this constant inter-communication of bees from one apiary to another, which is everywhere taking place, under the idea of improvement, we may well tremble at the consequences which may and perhaps have resulted from this promiscuous interchange.

That it is idle to longer continue this importation, no one can fail to realize when we consider that after nearly twenty years of trial, no man has been able to give any substantial evidence of even their purity—save that they were decendants of imported mothers.

It may be inferred that the Italian bees is superior to any and all other bees, but unless we can have some peculiarity to which we can anchor, some quality to select, some virture to propagate, we have before us an endless chain of confusion and expense!

What marks have we? What do the importers say? How do the Doctors agree? The only peculiarity of the pure Italian which their scientific bee culture has found worthy of attention and propagation is the so-called "Golden bands," with a certificate reading thus: "The offspring of an imported mother, pure fertilizer guaranteed."

Gentlemen I am not here to advocate the virtues of any shade of bees, it is of no consequence to me what manner of blood moves in my bees. My first and only important question is, will they work? If it is true that we are, and are to remain unable to propagate the Italian bee in its purity and foreigh excellence to say nothing of its improvement it is a national disgrace and a poor compliment to our *boasted scientific bee-culture*. One will ask what shall we do when can we find pure Italian bees.

I cannot presume to say where they can be found, the savan of the A. B. J. says it is "common to find bees entirely black in pure Italian colonies in Italy."

Now gentlemen if this is the case we have plenty of pure bees in this country, that is as pure as Italians ever are! If I had a dark queen whose worker progeny had in the main three bands lighter colored than those of the black bee, and also had a more pointed abdomen, I should regard her pure. If her bees would work promptly in the boxes when there was a supply of honey producing flowers, I would select her for a breeder and raise my own queens from her.

On the contrary if I had a very yellow queen which produced very marked and *so-called "beautiful"* bees and they would not work promptly in the boxes, I would regard her as an abnormality, suited only to exercises in Dress Parade, and on no condition raise any queens from her.

The queens generally sold are from this class of albino. This extra golden color is what the queen raisers call their great improvement. I mean the improved Italian which sells so well. No other improvement has any cash value to queen venders, none of them raise much honey!

What I have endeavored to show is the utter folly of continual interchange of bees either among our own or foreign apiaries under the delusive hope of improvement.

Some people suppose that close breeding is injurious, and the queen-raisers ponder to the whim. If it is, how long will it take to find it out. Bees have been kept in Italy as long as we have authentic history, and yet no perceptable change has ever been recorded.

In stock breeding no real advances have ever been made except by in-and-in breeding. The famous Vermont Merino sheep were produced in that way, and it is said that all the successful breeders of sheep in Australia have pursued the same course and with the best results. While those imbued with the idea that stock deteriorated under close breeding and have spent much money to prevent it, have almost without exception ruined their flocks.

No strain can become fixed except by close breeding. Peculiarities in bee as in other stock may become fixed by close breeding in all probability. And with this view it is idle to look to queen raisers for valuable improvements. The hope of the honey producers lies entirely within themselves. "As the coming honey bee" must be a *honey gatherer.*

T. F. BINGHAM.

Abronia, Mich.

For the American Bee Journal.

The Winter (?) "Down South."

In this locality (middle Tennessee), bees went into winter quarters heavy with honey. They gathered from Wild Aster until about the tenth of November, hence, in cases where no extractor was used, the combs in the brood apartment were nearly full of sealed honey. Bees about here are all wintered on summer stands, yet I have not learned of any serious loss, though the weather has been unusually severe, the mercury 2 degrees below zero for a short time in an exposed place on the north side of a brick house. Honey came in so rapidly that I was unable to keep ahead of the 121 colonies I had to extract from, and a few of them were left until a warm spell between Christmas and New Years. All of my colonies wintered well, and commenced to gather pollen from willows February 23d. For about two weeks they have been getting some honey from a small yellow flower known as Bladder Pod, (*Vesicaria Lesecuria, Ord Cruciferæ.*) The fruit blossoms are just opening.

Some of my colonies reared brood all winter, and since this has been "the severest winter known to the oldest inhabitant," I infer that colonies in the proper condition would do so every winter.

My conclusions are that in this latitude, the desired result will be attained if bees are put in the following named condition:

1st. In tight hives, entrance contracted to ½ an inch, frames covered with a good honey-quilt, and top story tightly packed with straw.

2d. "Chock-full" of bees when winter commences, and with a prolific young queen.

3d. The cluster in the center of the hive, with about twenty lbs. of sealed honey, arranged in the form of an arch over and around the bees, and with winter passages cut a little above and each side of the center of the brood combs, a single passage through the others.

Because bees will live through the winter here with little or no care, many deem that it is not necessary or that it will not pay to prepare each colony for its season of rest.

Knoxville, Tenn. FRANK BENTON.

For the American Bee Journal.

Successful Wintering.

I commenced the summer of 1874, with 19 swarms and run them to 82, and took 1,000 lbs. extracted and 400 lbs. of comb honey. I sold all but 59—14 of which were nucleus. I tried all ways of wintering to find which was the best. I wintered some in the celler under my kitchen; some in a tight clothes press in my chamber; some in an out doors cellar, and some in a snow bank. I found those wintered in the chamber, dry and in as good condition as when put in. Those in the cellar under my kitchen some what damp and mouldy, and some signs of dysentery, which I stopped by feeding pure white clover honey, in my cellar as they stood before I set them out.

Those in the out door cellar came out next best, and those in the snow bank in very poor condition. I lost one nucleus and one queen, but as I had extra queens I saved the swarm. The rest are all strong and in fine order. They will average from 20 to 25 lbs of honey to the hive. I am feeding rye flour, and I find they are storing it in their combs. I never saw it done before.

MRS. D. M. HALL.

Lima Center, Wis.

For the American Bee Journal.

Brood Raising and Artificial Swarming.

As the season is fast approaching when those of us who would have a favorable yield of honey or an increase of stocks should handle our bees with these objects in view. I have thought that a few notes on the above subjectsmight prove acceptable.

My best success in brood raising I attribute mainly to two facts. After reducing the number of combs in the hive, so as to leave only those which the bees can cover. I protect them with a woolen quilt, laying it over the top of the frames and also spreading it down over the outside combs to the bottom of the hive, and to further confine the heat of the bees I make a box frame (the exact size of the top of the hive) of half inch boards. three inches wide, then tack heavy muslin, or better still, woolen carpet on the lower edge of this frame, we have then a box three inches deep, this is to be filled with wheat bran or wheat chaff and used instead of a honey-board, the stock is now much better prepared for brood raising than if the hive was either filled with honey or empty combs. The colony being now in proper condition to hasten the increase of brood, to promote this desired object the best inducement I have found is to open the sealed cells of the honey remaining in the hive. I find that this is a greater incentive to brood-raising than feeding either honey or sugar syrup above the frames, (this to a certain extent evaporates a portion of the heat of the hive) further and still more beneficial stimulative feeding may be done by opening the sealed honey in a frame and placing it in the vacant space outside the quilt but under the box frame. This mode of feeding appears to have much the same effect upon the bees and queen that gathering honey from natural sources produces. The next important step is to furnish our stocks with honey as fast as the bees increase sufficiently to cover them, continue to do this regularly until we have returned all the combs which were taken from them early in the spring, and now after all these have been filled, we are ready either for surplus boxes, empty combs for the extractor, or for making artificial swarms.

But before we proceed to the important step of increasing our stocks, we should see that our nuclei for raising queens are in proper condition. To make an artificial increase we select two of our strongest stocks, from one of which we take all the brood combs except two, being careful to have eggs as well as brood and after brushing all the bees back into the old hive we place these brood combs at one side of the new hive covering the whole with a quilt similar to that used for brood raising, then carry the new hive to the stand of another strong stock, remove this stock to another location and place the new swarm on the stand formerly occupied by the strong colony. This should be done about mid day or when most of the honey gatherers are in full flight. It will now be observed that we have the brood or young bees from the second stock. If we so desire it, this will conclude our labor of making our new colony, as, if care has been taken to furnish them with eggs as well as brood, they will soon provide themselves with a queen, but as this will retard our young stock in its labors and even place it in a less favorable condition than a natural swarm, we shall see if by a little proper effort we cannot place it at least twenty days in advance of its present condition and thus have it in full strength for the honey harvest, and just here we will observe the benefit of our nuclei before spoken of. On the next day after making our swarm (we say next day because the queen or queen cells will be better received) we go

to one of our nuclei and take from it a furtile queen, which after enclosing in a wire cage we place between two of the brood combs of the new swarm, this queen we can safely liberate after from 24 to 48 hours if the bees have not already done so and thereby deprived us of the pleasure; but should we find no queens in proper condition we then take a sealed queen cell cut from the comb in the form of a wedge, with the broad end above the cell, and this we insert in one of the brood combs in the center of the swarm, our only labor after this will be to furnish the hive with empty combs or frames as fast as the bees can cover them in a similar manner to that directed for brood raising. We have now completed the building up of our new colony, and it only remains to treat it as an old stock, either for honey gathering, or if the swarm has been made early in the season, we can in turn use it to furnish brood or a portion of brood for another new swarm. We should have stated earlier in our directions that the brood for a young swarm can be taken from three or four different stocks, instead of only one and with equally successful resuls. In this case there will be no visible reduction of any one of our colonies.

We shall now return to the old hive from which we took the brood for the formation of a portion of our swarm and in which we left only two brood combs. The leaving of young brood with the old stock, we consider an essential feature in artificial swarming, and for the very obvious reason that the young bees are the best nurses of the eggs and young brood which will be set by the queen much more freely than it would have been had the hive remained in the condition it was before depriving it of the greater portion of its brood. We think that none of our bee-keeping friends who have practised the method above given and also the one of depriving a hive of all its brood, will be willing to dispute the position we have taken, but will with ourselves have been forced to the conclusion that young bees as nurses are all important to the future success of the colony.

It will be seen that by adopting the foregoing directions, if the following season favors us with a good yield of honey, we will now have three stocks in proper condition for gathering a surplus store, and we shall not have spent many anxious hours in watching our bees only to witness the unwelcome spectacle of a swarm coming off late in the season, to leave us per-chance for th ewoods, or at most to be carefully fed to prepare it for the winter, and from which we cannot expect an ounce of surplus.

We have given what we have found to be the best manner of increasing our stocks, and should be glad in return to receive the narration of the successful practice of those who have been extensively engaged in this important branch of apiculture, and who are therefore more competent to teach the art than we are.

"B."

Beaver, Pa.

An Essay on the Size of Frames.

To the Michigan Bee-keepers' Society.

GENTS: Since the discovery of the reproduction of bees by Dzierzon, and especially since our beloved Langstroth has taught the best mode of constructing the frames, the American bee-keepers have made constant progress in the management of bees, and the inventors have struggled to get the most convenient hives considered as homes for our little pets. Among these inventors some have made mistakes, and have done more harm than good, while some more fortunate have hit the nail and are real benefactors of our bee community. But is to be remarked here that nothing has been devised having any value when compared with the long upper bar to support the frame, the absence of contact of the frames with one another and with the hive, and the movable honey board, Without these three conditions devised by Langstroth, no easy management of bees is possible.

If we compare the improvements with those of the old continent we see, in Germany, Dzierzon, better in theory than in practice, advising his adepts to cling to the movable comb suspended under a top bar in place frame. Berlepsch, the most learned bee-keeper of Germany, using a two or three story hive whose frames are pulled out by the sides; and the most advanced bee-keepers of Italy trying to improve the Berlepsch hive, while in America we are furnished by Langstroth with a hive combining those three qualities without which there is no good hive, the frames independent of one another suspended at the top, and the movable honey board.

Few American bee-keepers would today dispute the necessity of these three requisites of a good hive. Let us then discard all the inventions which dispense with one or all of these three distinctive features of the Langstroth hive.

But if we, all, or nearly all, agree on these points, we are yet far from agreeing as to the size of the frames and their

shape. Some want a large number of small frames, while others contend that a small number of large frames is better. Some adhere to frames higher than long, while others want square frames, and still others, true disciples of Langstroth, prefer the shallow frame.

All these sizes, all these shapes, have given good results, according to circumstances, but the question is not "are all sizes and shapes good?" but "is any given size and shape better than others, or which are the sizes and shapes of frames which compared with each other will give the most profit?" for in bee-culture as in every other business, it is the net profit which is our object.

Reading the writings of American bee-keepers leads me to conclude, first, that the frame longer in height than horizontally, offers too small a space in its upper part to place a good number of boxes or surplus frames, besides the frames are more difficult to remove from the hive on account of their height.

For a long time I had considered the square frame better than the horizontal, but after using both shapes in my apiary for years, I have become fully convinced of the superiority of the latter. In spring, the bees between the combs form rings more or less compact, more or less thick according to the weather. These rings which encircle the brood nest, serve to maintain the eggs and larvæ at a degree of warmth indispensable to their development. As the heated air rises continually in the hive, the rings are deeper and thicker at the bottom than at the sides, thicker too at the sides than at the top. The nurse bees travel easily over the vacant space inside of the rings, and the queen goes over all the enclosed surface hunting for empty cells to deposit her eggs. When she approaches the ring, the bees retreat before her and she can lay her eggs in the empty cells, but soon the bees, on account of cold cannot give the queen the place needed by her, the receeding ceases sooner at the bottom than at the sides, and this is why if we examine a comb occupied by a brood in spring we find it invariably larger horizontally than vertically, its bottom being always flattened. Thence the predilection that many bee-keepers entertain in regard to frames longer horizontally than strictly square.

Besides, for the same motives, a large frame is more convenient than a small one. In a hive containing many small frames, the same surface of brood needs more bees to encircle it, than in a hive whose frames are larger. By actual account, I have found that a square frame 12 inches both ways, needs 15 per cent. more bees to encircle the same amount of brood than in a Quinby hive whose frames are larger, being 18 inches long by 11 inches in height. I have both sizes in my home apiary, more than 50 of each. I examine them carefully every year, and I have arrived at the conclusion that a horizontal frame is better than a square frame, and that the less numerous the combs are in the hive for the same amount of room, the better it is for the bees and their owner.

Last year I had an equal number of each of the sizes above related; by the first of June my best colonies in Quinby hives had above 10,000 cells of brood more than my best colonies in square frames. I think, in consequence that the greater area of comb of ever frame had something to do with the greater laying of the queen. In the French bee-keepers journal "LeApiculture" for March 1873, a gentlemen is cited who had a colony of bees whose queen had laid more than five thousand eggs per day. The hive had frames 16 inches both ways.

As another proof of the advantage of large frames, I can say that when I have colonies in my nucleus hives, the queen although enjoying the same surface of combs, does not lay as much as if put in a Quinby hive, the combs of my nuclei are half as large as those of Quinby, being the Quinby frame divided in two parts and reunited at will. Leastly, another proof of the superiority of the large frame has been given to me recently by my friend L. Abbie Sagot, a well-known French bee-keeper, whose hive has small frames; he writes me asking how I manage to prevent the queen from going in the surplus boxes. Although his hives are very large, the queen goes so often in the surplus boxes that he experiences a considerable loss, and he consulted me about the propriety of having the top bars of his frames made of cast iron and so near each other as to prevent the queen from going in the boxes. With my large frame I have very rarely such laying of the queen in the boxes; two or three per thousand at most would cover all my loss on that account.

From all the above, it results that the large frames spreading horizontally, are to be considered the best. Our friend Langstroth, had preceeded us in that way when he divised the frames of his hives. But in my opinion, his frame is too long when compared with its depth. And I know many of the most eager partisans of the Langstroth hive who think of advising the beginners to cling to the prici-

ple, but not to carry it so far. Among these bee-keepers, and first on the list, is our friend Novice, who, in his last *Gleanings*, gives the preference to a frame 13 inches long by 11¼ deep, which size he offers to the American bee-keepers as a standard. No doubt a standard frame, adopted by the American bee-keepers community, at least by all the beginners, would be an excellent step, a step in the right direction, for it would lead all of us sooner or later to a very desirable uniformity. In Italy, the central bee-keeper's society agreed on the length of the upper bar of the frames as standard, and that measure led to a complete uniformity among the bee-keepers of the entire Italian peninsula.

Nobody can deny the advantage of such uniformity. By it the interchange of hives or combs, or honey we are easy from one apiary to another ; for instance, some districts in Italy abound in honey of first quality, while some others give only fern honey which besides being of poor quality, cannot be expelled from the combs by the malextractor. The bee-keepers of the good honey districts empty all their combs and replace the honey by purchasing combs of fern honey, this purchase would be impossible if the frames were of different sizes as they are in this country.

We are often prevented from purchasing stocks from our neighbors on account of the different shape of their hives, for fear that we should get two different sizes of frames in the same apiary.

Germany and France envy the uniformity of the Italian hives, but have not yet taken steps to imitate their neighbors. Like us, they have too many different sizes to see a standard adopted, and it would also be very difficult to point out the shape and size to be preferred.

We here have nearly as many sizes as inveniors. Yet all can refer to four or five, the largest being the Quinby which has only 8 frames for the same surface as 10 Langstroths or 11 Americans, and the smallest being the Gallup frame.

If it is stated that the larger the frame the greater the laying of the queen, the only thing to ascertain is, "which should be the extreme surface, taking in account the weight and the solidity of the comb." I can speak of the Quimby frame from experience, having managed it for ten years. It is not too large nor too heavy. Its surface is equal to 200 square inches. I think consequently that a standard frame should not be inferior to 200 inches or larger than that. A smaller frame, say 150 inches square, is, in my opinion, too small, for the hive should contain eleven frames for the same surface of combs. Now, as it is more expedient to remove 8 frames than 11, the bee-keeper runs less risk of being stung, and the robbing is less to be feared. Some will contend that so large a frame would not do to raise queens. But the raising of queens for sale is a specialty, an exception, a need of our epoch of transition, but it is not for an epoch of transition that we want a standard frame. It is for the majority of the bee-keepers and for the bettering of our crops.

To conclude, I will say to the American bee-keepers, to those who have two or more shapes in their apiaries, especiall to those who have many of each size, examine your hives, see which give the best results, and report through the journals.

After some years, the bee keeper's community will be enlightened by the discussions, and then, *but then only*, will be apt to choose a standard which will comply with the ieterests of the bee-keepers and the instincts of our useful insects.

Hamilton, Ill. CHAS. DADANT.

For the American Bee Journal.

Honey Adulteration.

A great deal has been said about the adulteration of honey, glucose, etc., but the subject is far from being exhausted. I have learned to know the article of late, and will give my experience. It may serve to put on their guard a few honest bee-keepers and a few fair dealers.

Glucose is grape sugar, the next relative to honey, derived from corn in this country and, principally from potatoes in Germany and France. Glucose made of corn is the lightest and made to serve the purpose. It is thin, or thicker of the consistency of honey as it is dry sugar. It is bought, principally, by distillers, brewers and "honey dealers." So I am informed by the agent of the manufactory in St. Louis, Mo., who lives in this city and with whom I am very well acquainted. I send you with to-day's mail a sample of the dry grape sugar, and a small bottle of the glucose which is used for the adulteration of honey. You will find it of about the same thickness, transparency and color of honey, you will find also, that it mixes with honey very easy. Being of good taste and not having any particular flavor, it does not spoil the flavor of the honey but partakes of it very readily. It diminishes, however, the acid of the honey. At least, so I find it. It is a pity that adulterated honey cannot be told

more readily! It will seriously damage the honey business, as consumers will become suspicious. Almost the only safeguard to consumers is the reputation of the dealer. I cannot warrant the purity of my honey any more if sold by another party, except it be in small packages with my name on every one.

To illustrate: A friend, druggist, buys his honey of me because, as he says, he believs it to be pure and——because he wants to do his own "mixing." He did not believe that I was able to pick out my pure from his mixed honey, and invited me to come to his store for a trial. I went and picked the right jar, but, as stated above, I did not miss the flavor and almost not the trasparency and color, but merely the "acid" in the adulterated honey. His mixture was one part honey and four parts glucose. Glucose is worth 7½ cents a pound in Cincinnati. It can be had light, like the sample I send you, and of the color of nice clover honey and in any shade darker. Glucose crystalizes with the honey. It should be an object to every bee-keeper and especially to the editors of every bee journal to post everybody in regard to the matter. Honey should always be sold by its proper name, and the consumer should be taught to understand that the quality of the honey is determined only by the source it is derived from. I was astonished sometime ago by one of our prominent (?) brethren who maintained that sugar syrup, after it had passed through the honey sack of the bee, was as good honey as any. Our friend gets sometimes large crops by mixing a few barrels of coffee sugar. Next season, I suppose, glucose will help him out.

Cincinnati, O. CHAS. F. MUTH.

For the American Bee Journal.

A Student of Billings.

Sum folks wont hav eny frame unless it's 12x12. I gess it would doo, and hold as much, if it was 18x18 or 9x16.

I have hear a man yell just as far when an Italyen stings him as if it waz a black or hybrid.

Sum of my friends like tu look into a hive with their fases all bare; which it is fun enuf for me tu stand behind some muskeeto bar when I look in.

Experiense iz a skool where tuishun iz hy, I went awhile. In regard to a smoker, I made my own, of a tin box and bellos of oil-cloth. The tryal trip, the snoot kum off, bu unsodering, and I was trod under foot bi a bee. Then I bot Quinby's.

Mr. Langstroth gives a very sientifik description of a bee's sting. I liken it to an irate insekt sitting on your fase, with a needle in his pantz. P.

For the American Bee Journal.

Candied *vs.* Liquid Honey.

If my friend Argo was surprised in reading my article on candied honey, I acknowledge that I was greatly surprised in reading his. I have never seen pure honey remaining liquid all winter. This is why I have written that all liquid honey in winter is an impure article; or at least an article which, by heating, has lost a great part of its quality. I have never tried the plan proposed by Mr. Argo, although I came very near it; all the difference being that my honey was not put in a room altogether obscure. I will try it this year and report. If it works with me as it did with Mr. Argo, I shall regret it, for the bee-keeper will have lost the most easy means of testing the purity of honey. Besides, liquid honey is always more apt to sour than candied honey.

Hamilton, Ill. CHAS. DADANT.

P. S. Mr. H. Burch, in his "Money in in the Apiary" accords with me, when he says, that we ought to teach consumers that a granulated article is better, besides being absolutely pure.

For the American Bee Journal.

Adulterated Honey.

I see, in the report of the North-Eastern bee convention, that steps should be taken to obtain from the Legislature, a law making it a misdemeanor to affix the name of pure honey on a spurious article. I think it would be a move in the right direction: To help it, I will say what the laws of France are against the adulterator.

Twice every year, at irregular intervals, a sanitary commission, formed of three honest and learned doctors and chemists, visits the groceries, the drug-stores, the bar-rooms, the coffee-houses, the galleries, confectioneries, breweries, &c.; in fact all the stores and manufacturers of eatable products. All the Products and matters are carefully inspected. If some seem spurious, or impaired, by age or otherwise, they are analized. If proved adulterated, they are destroyed and the adulterator is heavily fined and sometimes condemned to jail.

The protection of law extends further yet, for each article of jewelry, before going from the shop to the store, must be assayed and coined. If the quantity of alloy exceeds the allowance permitted by the law, the jewels are hammered.

All the weights and measures, in all the parts of France, are also inspected twice every year.

Such protection, against frauds, would be beneficial to this country; even if copied from *immoral* France.

I want to ask Dr. Bush if he intends to apply this word immoral to me or to my native country. If to me, I will beg him to cite an instance of my business or other immorality. If to my country, I find that the opportunity of accusing France of *immorality* was very ill chosen, by him, since we were after a means of preventing the American dealers from adulterating honey; the laws of *moral* America being void against such frauds.

I think it is unnecessary for me to tell from what the anger of Dr. Bush came against me. He had a receipt, to prevent honey from candying, for sale, (see A. B. J. 1874, 286) and I have hindered its sale.

I persist in saying, with the most of the bee-keepers present to the N. E. Bee-Keepers' Convention, that the best test of pure honey is its candying, glucose is not honey, neither in appearance or in taste.

I will add something to the great learning of Dr. Bush: glucose is not made with grape juice. French people drink or sell their grape juice and manufacture glucose with potatoes. C. H. DADANT.

How My Bees Wintered.

I put in my bee-house 80 swarms, 23 nucleuses or small swarms, containing pure queens, and put a small quantity of bees that I wished to try the experiment of wintering and build them up in spring, and two hives containing pure drones without a queen and with scarcely any worker bees. The way I got my two hives filled with drones exclusively, was by inserting drone comb in strong, pure stocks, get them filled with eggs and brood and then place them in the queenless stock, continuing in that way until I had two strong swarms of drones. That is the way to Italianize in the fall after all black drones are destroyed. By this process, you can keep all your stocks pure, even though you are surrounded by black bees.

The two hives of drones died before spring, I suppose with old age, and also one of the nucleus that I made a few days before I put the bees into winter quarters. It being cold at the time, I suppose they failed to cluster properly, and there not being a pint of bees, I do not expect they saved them, thus leaving me 102 swarms to put out in good condition. I got eight persons to help me put them out on their summer stands. We did it in about twenty minutes on March 31, it being a very warm day, and they opened the entrances larger than needed. Four nucleuses swarmed in the excitement, and went to other hives, leaving me 98. Now I would advise not to set all out at once, if they have a large number, put out every second or third hive; then place others between after the first have had their fly, keeping them at least six feet apart. Mine flew so thick that some of the bees got lost, and went to the wrong hives, so some hives got more than they should have had while others were left weak, thus necessiating changing hives and equalizing a number and then not having them as equal as when set out. All appeared to have the same smell and no quarreling ensued. For a few days my bees seemed satisfied with any queen or any place they were put, after I got them equalized, my next work was to adjust the division board, giving them only as many combs as they could cover, breeding went on faster when the queen got the combs well filled with brood and eggs. You can repeat the operation every few days until the hive is full, but be careful to select combs containing pollen, as broods cannot be raised without it, in early spring plenty of pollen is of more value than honey.

After giving them space in proportion to their strength, I then cover the quilt with old newspapers; they keep in the heat, and breeding goes on more rapidly.

Keeping them warm is very important, also keeping the entrance so small that only one or two bees can get out at a time. When I put them in the bee-house I removed the covers, leaving only the quilt on the frames, close the entrance to half an inch, then all the old and sickly bees have their time to die, it being much better to have them on the floor of the bee-house than in the hive. After removing all the hives, I swept up all the bees that died during winter, and they weighed 12 pounds. It takes 7,000 dead bees to make a pound. So 84,000 bees, in all, died during winter, which is 800 bees to each stock. But when we remember that two swarms of drones died, and were included, I suppose the average was not much over five hundred bees per stock, which, I think was quite replaced by breeding while in winter quarters.

The average consumption of honey per stock, was about 5 pounds, and they were over 4½ months in winter quarters. Some stocks with natural stores, showed

some signs of dysentery, while those fed on sugar syrup seemed the strongest and healthiest. If any person can invent a machine to make good artificial combs that the bees will use, I will buy a right if it does not cost more than five thousand dollars. D. A. JONES.

Tecumseth, Ont.

For the American Bee Journal.

A Sad History.

Quinby says, give us both sides of the question. Well, here it is, although it makes me sick to think of it. Six years ago I commenced with six stocks of Italians, with black bees all around me. One man about ¼ mile from me had 30 stocks, another two miles on the other side, had 20 odd, and another 21.

The summer of '69 was very wet and cold, and bees stored very little honey, by feeding, I kept all mine through the winter of '69 and '70, and came out with 13 stocks, but one lost its queen which left me 12 to begin with, while my neighbor had his original number 30. The summer of '70 was an extra season, and I increased to over 40 ; wintered in cellar all right ; '71 increased to over 70 stocks, when I was ahead of any of my neighbors. Built a bee-house which cost about $200.00.

But instead of wintering as formerly, I removed the honey board on putting them into cellar and bee-house, left caps on and lost over half, having but 35 stocks left to commence '72 with. This is a part of the dark side ; as I was teaching in this village at a salary of $750.00 I was able to stand it and thought I learned that year more than any of my pupils. I read an article in the April No. of the AMERICAN BEE JOURNAL by Mrs. E. S. Tupper, which confirmed me in the belief that too much upward ventilation was the cause, or (as Mr. Quinby calls it, *cold* was the cause.)

In the winter of '72 and '73, I removed one slat from honey board and put in cellar and bee-house, and came out all right, although the winter was very cold, so that more than half the bees around me died. I liked the cellar the best because it was warmer in winter and cooler in summer. The summer of '73 my bees did not swarm much, but did well gathering honey, for this locality, averaging over $7.00 a hive. I sold my honey at my bee-house for 30 cents per pound ; the buyer crating it.

In the winter of '73 and '74, I wintered 65 stocks as described, and did not lose one, sold two. Had a cold spring and bees did not do much until after the middle of June, when the honey season commenced, soon after swarming ; and then there was nothing but swarming and partially filled with boxes. The basswood blossomed on the 12th day of July, and lasted till the 25th ; on which day my first swarm of the season sent out a large swarm, but a storm the next day wound up the basswood.

My rule was to put four small swarms in one hive, and one or two with a strong one, by which means I had strong stocks. I had a stock or (swarm) hived the 17th of July, fill 10 frames 8x16¼ inches, inside measure, and from 10 to 15 pounds in eight days. I had the nicest apiary in this part of the State, and put them away as usual (12 stocks) half in bee-house and the rest in cellar except one in double walled hive which I wintered outside.

My cellar is generally too warm for fruit and vegetables, but froze some last winter, and bee-house a good deal. Took bees out of house in February, and let them have a good fly, found three dead, put them back as soon as the winter became cold.

On the 30th of March, the stock outside was carrying in pollen, I got help and carried out of cellars, &c. Hives heavy, and most seemed to have plenty of bees, I remarked more than usual. We had one week splendid weather, and we were joyous, (the bees and I), but after they had been out 18 days, a change came on, but we thought every day would be the last. But alas, we were mistaken, and when warm weather came, I found my apiary ruined, and with it all means of support cut off as I have poor health and a crippled right hand. Some froze to death, but a great many came out of the hive and united with others, and of course, many were slaughtered.

I am nearly discouraged ; a thousand dollars would not make me good. I never lost any before, after carrying out. I have a house and lot which I cannot dispose of at present without sacrificing half. I love bees and dislike to give them up.

Will some one answer the following : Is Southern California the best place to go to keep bees for box honey? Will the honey raised there sell well in our market? What can Italian bees in Langstroth hives be purchased there for? What would be safe estimate (net cash), per hive box honey? Could I go in there, a stranger, and find a location without difficulty? What is the expense of shipping honey from San Diego to Chicago? What the address of Editor of *California Farmer*?

I find a difference of opinion, as for instance : H. Goepper , in the July No.

Bee-Keeper's Magazine for 1873, makes quality of honey very poor, while he says the country is no better for quantity than Ohio. I think he is as he says, in a poor locality. (Santa Clara Valley.)

J. W. Montgomery, of San Bernardino, says: "I am satisfied that the poorest honey we have will compare with your best basswood." That is good enough, for I sold mine last fall in Pittsburgh, Pa., for 33 cents per pound.

Brother Ives says come to Austin, Texas, but does not say anything about the quality or price of honey there. I want, if I move, to go to some warmer country and among a friendly people, as I must leave my family here at present. If I engage in the business alone, I will have to work bees for box honey, as I cannot handle frames well. I have a neighbor who offers to furnish capital to start a small apiary and divide profits, but he is Texas inclined, while I am California inclined.

How much of an apiary of Italian bees could I start for five hundred dollars?

Westfield, N. Y. H. B. ROLFE.

For the American Bee Journal.

The Peabody Extractor.

MR. EDITOR: I was both surprised and pained to see that friend Peabody had put my name among the testimonials in favor of his extractor in your May No. Had he given the date of that letter, it would not have been so apt to mislead, but even then, after the correspondence that had passed between us on the subject, I cannot but think it unkind. In 1870 we took about three tons of honey from 48 colonies, with a simple home-made extractor, and one of the girls then in my employ in the jewelry business, undertook it as a kind of recreation, did it all, and found it "just fun." In the spring of 1870 Mr. Peabody made me a present of one of his extractors, and I was so much pleased with it that—after a very hasty trial—I purchased, I think, a half dozen. These were sold so quickly—upon my recommendation—that we sold also the one presented to us and used our old one during the season. In the spring of '72 I purchased one dozen, at $11.00 each, of Mr. Peabody, and sold a part of them, and when the honey season opened we prepared to use one of the Peabody machines, and in fact sold our old one for $5.00, as Messrs. Fay & Winder had sent us one of theirs, also. Well, Miss A. commenced with the Peabody machine, but it took all her strength to get the can shirling up to the required speed, and *more* than her strength to stop it as quickly as she had been doing. She declared she could not use it. I at first stubbornly insisted that it must work as easy as the old one, but on trial found my mistake. We then tried Gray & Winder's, a revolving can machine, also, and found it but little better. The honey was coming in, and what was to be done? We were needed in the shop and apiary both, but rather than to use the revolving can one more day, we went to work and built an improvement on our old one. That one now does service in our apiary, and is light, easy work for a woman to use. The Peabody machines we sold can be made to do, if a man uses them, but most of them are laid aside, and all will be soon. The half dozen we had left we sold at $7.50 each.

The letter Mr. P. extracts from was written after that first hasty trial, and, if we are correct, we added something that he has seen fit to clip off, in this, however, we may be mistaken. As soon as we saw our error, we wrote him entreating him to make a stationary can machine, as we did also Gray & Winder. And when *none* of the makers of extractors would furnish a stationary can machine made all of metal, like the one we have described some years ago in these pages, we had no choice but to make them ourselves. But when we objected to the revolving can machine so vehemently, we had no thought of ever engaging in such business. With a sincere desire that none of our friends may invest in implements that may prove a disappointment to them, and that every one may be fairly represented, I remain, as ever,

Your old friend, NOVICE.

For the American Bee Journal.

Hives for Farmers.

I am pleased with the AMERICAN BEE JOURNAL. Its monthly visits are gratifying to me. I read all its communications with interest; whether according to my views or not.

C. R. Isham's communication in your May number on "Patent Hives and Venders," I hope will be re-read by vast numbers. It is certainly amusing to read very stringent articles against patents, in patented books. No doubt the public are often imposed upon by patented articles, articles that are useless; and also by useless articles that are not patented. Every one must judge of the value of an article from its characteristics, and use. No one, very wise, would buy

an article simply because it is patented. But no wise farmer would take his scythe and whetstone and go into his ten acre mowing field, and sweat a week to cut it down, when he could avail himself of a mowing machine and cut it in a few hours, simply because the mowing machine is patented. I have seen the time 80 years since when in my father's yard two long rows of straw hives were standing in my father's apiary; and in the proper season, a selected portion of them were placed over brimstone matches, smothered and the honey some side combs and top, white, well filled with honey were laid away carefully in pans, saved for table use. The balance of the honey strained and saved for use, or metheglin; and the comb converted into merchantable wax.

Since that time and in some places before, box hives of wood have been introduced in various forms and differing in size. The simple box with two or four honey boxes upon the top. The chamber hive, with boxes in a chamber over the colony. The suspended hive. Cotton's large non-swarmer. The hive in the dark chamber.

The invention of the movable comb frame by the Rev. L. L. Langstroth, affected an important improvement in the business. Many have availed themselves of this improvement, and few new hives are now constructed where this improvement may not be available.

Another improvement or characteristic in hives is the introduction of small surplus boxes or frames of an aggregate capacity of 100 to 200 lbs. of surplus. Mr. Quinby, in the first edition of his work recommends this small box hive, which, he assures his readers, will give as much surplus and in as good shape for market as any hive, and shall cost them nothing for patent. He has since adopted a hive of the latter class with large surplus box room, and publishes in a late paper that he and quite a number of bee keepers, in a field 20 miles square have averaged 100 lbs. of surplus to the colony, on the same field where to his knowledge the surplus did not average over ten pounds to the colony, in the box hives he has previously described. It is certainly a large gain, 100 lbs. now, to where 10 lbs. only was averaged before.

In abundant surplus room alone can abundant surplus be secured. But I can give but hints here. I will send a descriptive circular to any of your subscribers, who will send address and stamp.

JASPER HAZEN.

Woodstock, Vermont.

For the American Bee Journal.

Notes on Bee Culture in France.

[Translated by Chas. Dadant, Hamilton, Ill.]

Our forefathers held the honey bee in great esteem. Notwithstanding their ignorance of certain facts, which were only known since the beautiful discoveries of Reaumur, Huber, and others, they kept their apiaries very carefully.

They assimilated the bees to the persons. At the death of a member of the family, they placed on each hive a piece of black cloth as a sign of mourning, indicating that the bees were intelligent beings, able to understand the loss. When passing before the hives, when taking care of them or gathering the honey, it was expressly forbidden to use any rough words or expressions, or to swear for fear of seeing the bees leave their hives forever. Lastly for the same motive, they never would *buy* bees, but they *exchanged* them for a *louis* of twenty-four pounds or a *setier* of rye. Occasionally the owners of apiaries rented them under the condition of dividing the profits and increase. In such a case the renter of the bees had them in his charge and was bound to feed and watch over them and govern them as he would his own. The honey and wax was divided in equal shares, but the hives could only be robbed in the presence of the owner. The swarms that were gathered were given at the same rates. In this country the barbarous practice of smothering the bees with brimstone, was never known. The harvest was made by pruning the combs, and the old people of the present day still remember that the operators in this line were more skillful and more careful than now.

The time of pruning was a happy day for all the children in the villages. Each received a slice of bread and honey and a glass of honey water, and each of the less fortunate neighbors were treated to a plate full of honey.

From the bees and apiaries let us pass to their products, honey and wax.

In our researches among old titles, we find everywhere the indication of revenue in honey and wax. The chronicler of *Puy Etienne Medicis* tells us that among the bishop's revenues there were five jars of honey. He neglected to tell us of the size of these jars. They were probably somewhat like the barrel of which they speak in the old laws of *Auvergne*, and which was valued at 35 *sols*, when a sheep and its wool was only valved at 5 *sols*.

At that epoch, as during the middle ages, honey was preferred to sugar for the preparation of most sweet meats. This preference was not based, as one might at first believe, on an economical motive; for such a motive is a small obstacle for gormands, but it was simply because they found that honey gave better relish to the dishes in the preparation of which it entered. Honey was thus for all, rich or poor, a real delicacy. They ate it pure at certain epochs of the year, and until the seventeenth century it was considered as the preferred food for Lent; this is explained by the nutritive properties of its azotous formation.

Honey was used, besides, in an infinity of ragouts, preserves and pies, and served in the manufacture of liquors and wines known under the names of *vinous metheglin*, or of *common metheglin* which had been in use for centuries.

Shall I expatiate on the role that honey plays and played in medicine and in pharmaceutic preparations? In our villages, honey is almost always employed in place of sugar in teas, and the sick do not complain of it, as it renders the beverages better and more digestible.

We have found in an old work, that honey was used as an antiseptic for the preservation of bodies, and this use seemed to us to be curious enough to be selected here: "I have seen in *Auvergne* at the house of a surgeon of *Aurillac*, the body of a man kept and preserved entire with its muscles, without any alteration, daubed and covered with honey."

If honey was sought for, wax was not thought less of.

The middle ages with their religious ceremonies, in the churches where closed windows gave but a faint and dim light, required an enormous amount of wax. The lights of the torches and of the wax candles, shining in atmosphere perfumed with incense, heightened the looks of the imposing ceremonies of the Christian creed. The custom of lighting candles in daylight, signified the joy, the charity and the light of the truths unravelled to men by the preaching of the Gospel.

TO BE CONTINUED.

D. A. JONES, Tecumseth, Ont., writes that some have sent to him from the U. S. for extractors, but as it costs so much for duty, &c., it does not pay to send them.

TO PRINTERS.—An eight column Foster Hand Press for Sale, cheap. For Particulars address, Thos. G. Newman & Son, Cedar Rapids, Iowa. 4tf

Sundry Questions Answered.

1. Will a colony of bees winter without bee-bread?

2. Can they raise young bees without it?

3. Can they raise young bees without water?

4. Will moth eggs taken out of the hive in November and put back in March, hatch?

5. Does the the extractor injure brood?

6. Can bees hear?

7. How far can a bee see?

8. Do the same bees that gather pollen place it in the comb?

9. What size meshes in wire cloth will allow the worker bee to pass through, but not allow the drones and queen?

10. How long may eggs remain in a hive before hatching?

11. Will honey extracted before it is capped sour if not sealed air tight?

12. Will it injure it to heat it for sealing? Please answer the above questions.

Gosport, Ind. JOHN S. LINGLE.

1. A colony of bees may be wintered without bee bread. We have tried it, wintering on sugar, candy and syrup, without either bee bread or honey; but in the spring pollen is indispensible; meal is a good substitute.

2. They cannot rear brood without it.

3. Young bees are raised without water in the winter, but we think moisture which accumulates is used in place of it. When much brood is reared, water is indispensable.

4. Moth eggs will not hatch if kept out of a hive all winter.

5. We think the extractor, *as generally used*, does injure all unsealed honey. It may be possible to use it without killing it, but we find in our hives, as a rule, no more honey in combs containing sealed brood than that brood will need for its use; therefore do not extract from such combs.

6. We cannot be sure, but think they do.

7. We have no means of telling how far a bee can see.

8. We think they do generally, but have often seen bees removing the pollen from the baskets of loaded bees.

9. Worker bees vary much in size and drones also vary. Queens vary still more.

10. We cannot say, but are sure that the temperature of the hive has something to do with the length of time eggs remain without hatching.

11. We have never had any sour honey, but cannot say that it will not sour in some conditions of the atmosphere.

12. We think it does injure the flavor to heat it.

If any one has different answers from these to give to either of these questions, let us hear from them through the JOURNAL.

Voices from Among the Hives.

A. H. HART, Appleton, Wis., writes: "I have to report a loss of bees where wintered out of doors, with dysentery; while those in cellars or suitable quarters came out all right. I lost four out of eighty swarms. I find that bees can't stand as much cold as a white bear."

ROBT. T. JONES, Flat Rock, N.C., writes: "Bees have wintered well here. All wintered on their summer stands. We have not had more than one week at a time but what bees could fly. Bees commenced to gather pollen from the elder on Feb. 26, from the soft maple March 10, and are still at in the bee meadow; fruit blooms will be in in a few days."

A. WILSON, Marcellus, N. Y., writes; "My bees wintered good. I put 13 hives in the cellar, and left 13 out on their stands. They all came out in good condition, except two hives where the boards were warped and let in cold air; and they froze. Those in the cellar came out all right. I have used two kinds of patent hives but have laid them aside for some of my own invention, which are more convenient to handle and contain about 2000 cubic inches."

G. F. MERRIAM, San Diego, Cal., writes: "I have taken a long trip among bee-men and find that the bees are in good condition. A frost about the first of April cut off many flowers, and put back swarming and reduced the honey-cup materially. A majority seem sanguine of success, but many are discouraged. It is fearfully dreary here to an eastern man, and costs a fortune to come here and get started in the business. November is the best time to come. Have seen Mr. Harbison and one of his large apiaries."

H. F. PUTNAM, Galesburg, Ill., writes: "My bees swarmed in April and went into other hives. They all had plenty of honey; from 10 to 20 lbs. each. I have had 10 swarm out this season. They were wintered in a house built for the purpose, and came out strong on the last of March. They had good queens and brood, but not a particle of pollen. The combs were clean and free from mould and worms. Langstroth hive, no upward ventilation. The result was that the combs were free from mould, and less honey was consumed than when I gave them upward ventilation."

R. M. ANDERSON, Hopkinsville, Ky., writes: "I have 14 full stocks and all came through the winter safely. I left them on their summer stands, with no protection except a section of planks built together 3 ft. square and stood up on the north side of the hive to break the cold wind off, and I find this a great benefit. I use the Langstroth hive and want no other, for I think it superior to all. I took last year 400 lbs. of honey from 6 hives and if this season proves as good as last, I hope to report much better results. Success to the BEE JOURNAL."

J. P. MOORE, Binghamton, N. Y., writes: "In article on page 103, A. B. J., left hand column, 12th line from the top, reads, 'I am now using a comb 10x17 inches,' (instead of 10x12.) The mistake is probably due to my imperfect chirography. If you will correct as above, I will be very much obliged, as the tendency of the article goes to show that I am in favor of large frames, and I certainly cannot subscribe to a frame as small as 10x12. There are some things in Mr. Coe's article on page 112, that I think would be likely to mislead those who have had no experience with the apiary house. I have used a house similar to Mr. Coe's for the past two seasons.

I cannot say that I prefer to handle bees out of doors, when the sun is shining bright, nor do I think that the house can be build as cheaply as the same room in outdoor hives. A house for 20 hives could be built perhaps for $6.00 per hive, though mine, a substantial house, cost, two years ago, $12.50 per hive.

I think well of the apiary house, where increase is not desired, and where the extractor is not used much, and also where we wish the bees more safe from petty thieves. Bees are doing well in breeding, up here, considering the weather. We are having a great deal of cold north wind. Fruit blossoms not open yet."

HENRY CLAUSSEN, Mishicott, Wisconsin, writes: "We have had a very hard winter, but bees that were housed in a good cellar have wintered well. My bees were carried into the cellar November 10th, and removed to their summer stands April 6th. From 143 colonies that were put into our cellar, two were found dead. The cause was, some mice found their way into the cellar and had eaten through the straw mats (which I use for honey boards) and this I believe destroyed them. We only had a few days this month that bees would fly, it has been cold all the time; some days the temperature fell 20 degrees below freezing.

DR. J. R. COLBURN, Chicago, Ill., writes: "I set my bees out of their winter quarters on Monday evening, March 29th, (four colonies out of seven), two died in cellar, and one was queenless. I examined them Tuesday evening, March 30th, and found that two colonies had decamped or left their hives having "swarmed out" probably Tuesday, p. m., as it was a very warm, bright, pleasant day. I found one queen and about a pint of bees hanging on the rear end of a hive (not their own) and took them and united them with the queenless stock above mentioned; but was unable to discover the other missing colony, and as it was growing dark, I did not look any further. Well—Friday about noon, the missing colony was discovered about 300 feet from the hive clustered on a few dried weeds near the ground having evidently remained there from Tuesday afternoon until Friday, about three nights and three days. But the strangest part of it, was that the Wednesday night intervening, the cold was such as to freeze the ground *hard*, as I noticed Thursday morning. I cannot say what the temperature exactly was, but the ground was frozen solid in the morning, when I went to my business, and I should judge the temperature must have been as low as ten degrees below the freezing point. This they withstood without any apparent harm, either to the bees or queen, as on an examination afterwards I discovered a goodly quantity of eggs in the brood chamber of the hive. I put them in."

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, JULY, 1875. No. 7.

Seasonable Hints.

This year the honey harvest is late. To most of us it will come about the time of the issue of this number of the JOURNAL. If bees have been fed and the hives kept warm they will be as strong in numbers now as in better seasons. Strong colonies will need no coaxing to induce them to gather honey. All that the bee-keeper has to do is, to afford every help in storing it. Combs may now be emptied of honey every other day, with the extractor, *in good weather*; and to one who never has witnessed it, the rapidity with which the combs are refilled, is almost incredible.

We cannot too strongly impress upon beginners the value of keeping the bees well supplied with comb while honey is abundant, if they have it or can get it. Every square inch of good worker comb should be secured and given to them in some way. As an illustration of the value of empty comb to a colony, we can give the result of a recent experiment. We put a good large swarm of bees into an empty hive, and the same day one of equal size into a hive with ten frames full of comb. At the end of ten days the latter swarm had stored 116 lbs. of honey, which we took with the extractor,—besides filling several combs with brood,—while the one put into the empty hive had only filled three frames with comb and partially filled them with brood. We have put, in our old style bee-keeping days, a swarm into an empty box-hive and had it barely fill the hive in the course of a season, while a swarm put the same day into a hive full of old black comb not only filled that hive with stores but gave us 72 lbs. of honey! We regard this box honey as really the value of the old comb in the hive.

The trouble with beginners is that they are not supplied with empty comb; indeed old bee-keepers seldom have as much as they can use to advantage. We hope the time is close at hand when we can buy comb or foundations for it, at very low rates. This has long been considered *the* great thing to be desired in successful bee-keeping. Mr. Quinby had been years experimenting without the success he desired. Within a short time, however, these artificial combs have been made in perfection, and we hope cheap enough to make them profitable.

The miller now will be at work, if allowed, and all must be on their guard. Strong colonies that cover all their comb are the best protection. Those that are weak must be looked after, and the comb examined. A queenless colony, if allowed to remain so, becomes an easy prey to the worms.

Keep in every hive room for the queen. Without the use of the extractor she is often cramped for room, and therefore there are not enough bees reared to maintain requisite strength. Preparations for wintering really begin now in securing plenty of brood, to keep up the strength of the colony.

Those who wish to secure box honey, must keep on plenty of boxes now. Set them directly on the frames in any form of hive, with no intervening honey board and put pieces of clean comb in them. You can in this way get any strong colony to work in boxes when there is any honey to gather.

Colonies may be divided all through this month, with profit in any of the Western States. New ones can be built

up late here, quite as well as in June. They may need care, but it is quite easy to give it.

Sow buckwheat, or have it sown for you, at different times. It always pays to have it, though there is great difference in swarms as to its yield of honey.

Bees Communicating Ideas.

The following illustration of the powers possessed by insects to communicate their experiences to one another is given by a lady correspondent of the London Spectator:—"I was staying in the house of a gentleman who was fond of trying experiments, and who was a bee-keeper. Having read in some book on bees that the best and most humane way of taking the honey without destroying the bees was to immerse the hive for a few minutes in a tub of cold water, when the bees, being half drowned, could not sting, while the honey is uninjured, since the water could not penetrate the closely waxed cells, he resolved on trying the plan. I saw the experiment tried. The bees, according to the recipe, were fished out of the water after the hive had been immersed a few minutes, and with those remaining in the hive laid on a sieve in the sun to dry. But, by bad management the experiment had been tried too late in the day, and on the sun going down, they were removed into the kitchen, to the great indignation of the cook, on whom they revenged their sufferings as soon as the warm rays of the fire before which they were placed revived them. As she insisted on their being taken away, they were put back into their old hive, which had been dried, together with a portion of their honey, and placed on one of the shelves of the apiary, in which were five or six other strong hives full of bees, and left for the night. Early the next morning my friend went to look at hive on which he experimented the night before, but, to his amazement, not only the bees from the hive were gone, but the other hives were also deserted—not a bee remained in any of them. The half-drowned bees must, therefore, in some way or other, have made the other bees understand the fate which awaited them."

Death of M. Quinby.

As we go to press, the sad news comes to us that Mr. Quinby is dead. This will be to most of the bee-keepers a personal loss. No other among those who are eminent in this business has been so loved and honored. He was the pioneer of progress in the work, and to him more than all others, we are indebted for the light thrown upon the bee-hive, explaining all mysteries and making the management of these little workers easy and simple. To us he has been a guide and friend. When first interested in bee-keeping his book was our guide, and when we went to him for advice the long cordial letters received in answer were full of encouragement. Mr. Quinby was singularly free from any jealousy or self-seeking in the business which he first elevated to the rank of a profession. He never had any selfish ends to gain, but was ready at all times to aid a beginner, by sympathy and advice. He was to the end of his life making new experiments and testing the inventions of others. The last letter we received from him was in relation to some comb foundations newly invented and which he was testing with success. This letter was as full of life and interest as any one that he wrote us eighteen years ago. An obituary notice may be found in another column.

Don't Violate the Postal Law.

However bad the laws regulating the rates of postage may be, they ought to be obeyed. Negelecting to do this often makes the party violating the law liable to a fine, often prevents the party addressed receiving the matter mailed or makes him pay extra postage.

Everybody ought to know that it is illegal to put any writing whatever, on a paper or circular sent at "third class" postage rate. So doing makes the sender

liable to a fine, or subjects the receiver to paying extra postage, at letter rate.

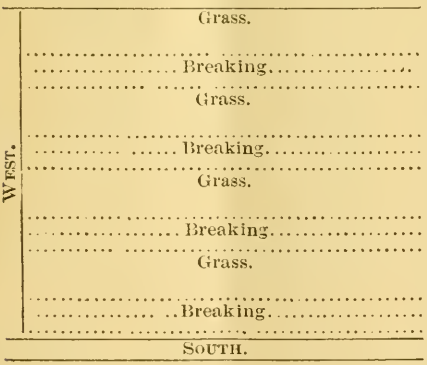
A letter will be forwarded, if one full rate, three cents, has been paid. Sometimes one may be mistaken as to the weight of a letter and not put on sufficient postage. The rate is three cents for each half ounce. Unless one three cent stamp is on the envelope, the letter will be forwarded to the Dead Letter office.

The full postage on newspapers, circulars, or any miscellaneous mailable matter must be prepaid. The rate of postage on this class of matter is now one cent for each ounce, or fraction thereof.

Postal cards should have nothing pasted on them. The communication must be written or printed on the back of the card.

How to drive away Grassoppers.

The "Grasshopper Plague," as it is termed, is very properly eliciting much disussion in the West, and many remedies and preventives are proposed. Among the latest suggestions we have seen is that of a Nebraskian who proposes the following method of driving the hoppers :—Let the raw prairie be plowed in strips or rows, two rods wide, leaving strips of half a rod for every rod plowed thus :



These grassy bars will be capable of a slow, smouldering combustion at any time. When the grasshoppers alight, the first bar of grass to the windward is to be burned, and others in succession, until the enemy is vanquished. The object of this plan is to drive them off, not to stifle them, as then they will revive and go to work again. It cannot be executed to advantage except upon unbroken prairie soil. Some may consider the plan a selfish one, but as self-preservation is the first law of nature, we suppose those afflicted are justified in resorting to any remedy that will insure protection.

The Postmaster General has issued an order modifying the postal regulations by striking out that part which provides that no subscription to newspapers for less than three months shall be considered a regular subscription within the meaning of the law. The effect of this new departure is to allow newspaper offices to send papers to subscribers at regular rates, whether for one week or three months. Heretofore subscribers for less than three months have had to pay transient rates.—*Ex.*

For the American Bee Journal.

Death of Moses Quinby.

SKETCH OF HIS LIFE AND LABORS.

BY J. H. NELLIS.

With this issue of the JOURNAL many will become aware of the fact that the noble, kind-hearted, generous, active and reliable M. Quinby, has passed over the Jordan of this life.

He died May 27, 1875, very suddenly, of apoplexy, having previously enjoyed better health than had been usual with him for some time. He leaves a wife and two children, a son and daughter, to mourn his loss.

His father, William Quinby, lived in Westchester county, N. Y., where the subject of this sketch was born, April 16, 1810. He was reared a Quaker, and probably much of the stability of character evinced in after life, is due to the strict training of his childhood.

His educational advantages were limited, but he was from early youth a close observer of everything,—hence, he acquired a practical education superior to that of many who had much better oppertunities.

Early in life he showed a love for the study of Nature, and he took especial fancy to bees. When about 20 years old, he purchased his first stock of bees, with the first money he could call his own—earned by working nights in a saw mill. From the very first, the method of increasing bees during summer to be killed in fall, in order to secure their sweets, seemed revolting to his nature, and about this time he became aware that bees would pass through the top of the hive and deposit their nectar in boxes which could be removed as surplus. He immediately adopted the new method, and com-

menced urging upon his neighbors the advantage of securing the honey in boxes, and as he since remarked, "saving the goose that laid the golden egg, to repeat the operation." In this, as in all subsequent attempts at improvement, he could *establish* very little except by *proving* its success.

He now studied the habits of bees closely; he improved the appearance of surplus honey boxes, substituting for wood, four sides of glass, and after careful experiments, pronounced 2000 cubic inches the right capacity for bee hives in his latitude. If at this time he had kept his knowlege concealed within his own breast, he could have made a fortune, pecuniarily.

He examined carefully such works on the Honey Bee as came within his reach and becoming convinced that they were not reliable and complete, he resolved to publish his experience, and in 1853 appeared his first edition of "Mysteries of Bee-keeping Explained." This met with general favor and wide circulation, and was accepted as a standard.

In 1853 he removed from Greene to Montgomery county, N. Y., where he has since resided, and from that time to his death, he gave his exclusive attention to bee culture, except that he has bestowed considerable care to growing orchards of apples, pears, plums, &c., and cultivated quite extensively grapes and small fruits. For a few years past, he also took especial pride in his trout pond, he having superior advantages for rearing trout. He now owned or had half interest in from six to twelve hundred colonies of bees, and was instrumental in sending to market from his section, amounts of box honey, ranging from five to thirty thousand pounds, annually.

Soon after issuing his "Bee-Keeping Explained," he became acquainted with Mr. Langstroth, and immediately adopted the Movable Frame Hive. A little later, Italian bees were brought to the United States, and Mr. Quinby procured some as soon as possible. He tested the merits of the new variety thoroughly and also modified the Langstroth movable frame, and in 1865, he published a revised edition of "Bee-Keeping Explained," giving the results of his riper experience.

Having passed the meridian of his life and for want of efficient help, he greatly reduced the number of his stocks about 1862, and subsequently gave much of his attention to rearing Italian queens and colonies for market, and in writing extensively for the agricultural press.

He was prompt to adopt the honey emptying machine and he set forth lucidly its manyfold advantages.

For some time he felt assured that movable frames were susceptable of improvement, and after giving Mr. Hazen's hive and theory, earnest consideration, he brought out his non-patented Non-Swarmer in 1868. This was found by careful experiment to be a worthy invention and is now adopted by all the leading honey producers in his section, and largely throughout the country

About this time he began to advocate the organisation of bee-keepers' societies, and as a result, the Northeastern Bee-Keepers' Association was formed at Albany, N. Y., in March, 1870. Mr. Quinby was chosen President and held the position until at its last meeting, he declined a re-election. His annual essays before this Association were masterly efforts and show to some extent the arduous labor, the severe opposition and the untiring sacrifice of the noble man departed. Truly may it be said of him, "Blessed are the dead which die in the Lord from henceforth: yea saith the spirit, that they may rest from their labors; and their works do follow them."

In 1871, at the permanent organization of the North American Bee-Keeper's, at Cleveland, Ohio, Mr. Quinby was unanimously chosen President, a position which he held for one year, but was not re-elected as he did not attend subsequent meetings.

About this time, he became convinced that bee-culture would not become universal, until the foolish and widespread fear of stings was removed from the public mind; accordingly he wrote frequently on the best methods of manipulating bees to avoid stings, and as the crowning success of his life, he invented the new smoker, with which to apply somke, effectually to the subduing of bees.

The disasters experienced in wintering bees, the past few years, has been to him a subject of constant thought, and probably no theory extant to-day is as good as his conclusions on this subject, as proved by his success the last two winters' in escaping loss.

But time and space will not permit us to go into minute details Of an active, progressive, philosophical turn of mind, he was generally in advance of his fellow men.

He was in intimate sympathy with the abolition of slavery and was closely allied with the cause of temperance.

In stature, Mr. Quinby was of medium height, well rounded, and rather heavily built; his was apparently a vital mental temperment.

Long may we remember the unassuming, pleasant, hearty manner of the man whom we respected as a father! Indeed his cheerful service of time, money and hospitality to those who wrote to him or visited him from curiosity or to learn all they could from him, without returning even a word of thanks, was, to others more selfish, a matter of much surprise.

Our feeble words fail to express the deep appreciation which we had of Mr. Quinby. We consider him the most successful founder of modern bee-culture in America, and a man of unswerving conscientiousness, truth and purity.

In short, we sum him up as a deep, progressive thinker, a real philosopher and a genuine philanthropist, who should long be held in grateful remembrance by the American people.

Canajoharie, N. Y., June 15, 1875.

☞Business seems to depend upon small things, and many of them, in Texas. In proof thereof read the following from a Texas paper: "A single queen bee will produce 100,000 bees in a season; the 100,000 bees will produce 50,000 swollen heels and the sale of twenty-two barrels of arnica.

The Orientals call the honey-bee, "Deborah; she that speaketh."

Correspondence.

For the American Bee Journal.

Bad Luck.

It is but right that bee-keepers should report their failures as well as their successes, but I confess I have not the same heart to write about one as the other. When my bees all come through the winter and spring in good condition, and are able to gather plenty of honey early in the season, I find it an easy matter for my pen to tell all about it. But when they die in the winter, and die in the spring, and then have to be fed through spring and summer, I have little disposition to talk or write *bees*.

The caption of this article is my apology for failing to put in my usual appearance in the columns of the AMERICAN.

"Bad luck" is no name for it. It is no luck at all that I have had this season. I could almost wish I never seen a bee. This is the way I feel when I look into my weak and starving stocks, and have to feed them every few days to keep them alive. But this feeling is a little modified when I sit down to my table, and pour out over my cake and pie the bountiful honey of last years' gathering. This pleasant reminder of last season's success takes a little of the edge off my present bad luck, and stimulates me to give enough attention to my depleted stands to keep them from starvation. It keeps alive within me the hope that my "luck" may some time turn, and honey again flow from my old-time extractor.

I thought until late in February, that my bees were wintering admirably. And even when I set them out in March, only a few of them had died, and they mainly from want of food. But after I set them on their summer stands, they dropped off one after another, until I had left only twenty out of fifty-four. And yet I was not discouraged, as I felt sure that as soon as the honey season came I could increase them to any number I might want.

This hope, however, and all other hopes for this season, were blasted by the slice of winter that was hurled on us in April. Everything in the shape of bloom and buds were killed too dead for reserrection. Even the poplar buds, which had just begin to form, were all destroyed. The poplar is our main reliance for honey. This, with everything else, was cut off. The locust has also failed to put out any bloom, although its buds had not begun to form at the time of the frost. We have nothing now from which our bees can gather any surplus, except a little scattering white clover, and there is an unusually small amount of that this season. Rains that have fallen in the last few days may increase this bloom some little, but I do not look for any surplus honey from this or any other source this season. I shall be well satisfied if my bees can find enough to live on without help from me. I have had to feed the most of them up to within a week or two past. Some I am feeeding yet. There is not much bee-fever in this section this season.

Charlestown, In I. M. C. HESTER.

From the Practical Farmer.

Italian Bees.

This variety of the honey-bee is found south of the snow-covered Alps in Northern Italy, and is of a striped golden color. They were accidentally discovered during the war of Napoleon III, by Captain Baldenstein, who carried the first colony across the Alps in 1843. In 1853 they were introduced by Dzierzon into Germany, and into the United States in 1860. There has been several importations.

We were slow to believe all the good things said of them by German apiarians, until convinced of their superiority by the universal testimony of prominent American bee-keepers, coupled with our own experience. From the mass of testimony in favor of the Italians, we condensed the following points of superiority over the common bee:

1st. The queens are more prolific than the common kind, consequently the colonies have more brood, swarm earlier and more frequently. 2d. They are less sensitive to cold, working more hours in the day and in cooler weather, hence, collecting a greater amount of stores. 3d. Their strength being greater and wings larger they are more active, fly more swiftly, and are less liable to be robbed, but easily master weak colonies of common bees and appropriate their stores. 4th. When bred in combs of their own building, they are longer and their honey sacs larger. 5th. Their proboscis being longer they are able to work upon flowers that the black bees cannot operate on. 6th. Their beauty of color and graceful form renders them an object of interest to every person of taste. Hence they attract many visitors, who admire their golden color, so beautifully shown by the sun rays, as they pass swiftly to and from the hive.

New York. H. A. KING.

For the American Bee Journal.

Best Bee Location, &c.

Seeing inquiries in the June No. by Mr. H. B. Rolfe, about California as a location for an apiary, I would say, that being desirous of locating an apiary I have, myself, been on the lookout for a place for some time past, and I investigated California among the rest, and I have come to the conclusion that Southern California is probably the greatest honey producing country, of equal area, in the world. I am further satisfied that its distance from good markets and liabilities to the disease known as "foul brood," as well as from ravages from the moth, may reduce the high estimate some people have of it. Again, there is just now a rush among the Eastern bee-keepers to Southern California; so much so that Mr. Harbison told me,—on his recent visit to the East, when he marketed his gigantic crop,—that where a few years ago he had no competitors near him, they are now so plentiful that he can hardly find a place to locate any new apiaries. His custom being to keep say from one to two hundred colonies in a place, and as fast as they increase, locate new ones.

Now in regard to the questions asked by Mr. Rolfe, I will not presume to speak *ex cathedra* as I have never been to California, but having looked up the same subject-matter myself, I will give Mr. R. the benefit of my inquiries on the subject and in the order of asking.

1st. So, California *is* the best place for box honey. 2d. Yes. 3d. Ten dollars per colony, (gold), but not in Langstroth hives, as most hives are made after Mr. Harbison's, which approaches the American in shape. 4th. Five to twenty-five dollars per colony, (this depends). 5th. No. It would probably be very difficult, now, to find a good location not already taken up. 6th. About four to five cents per pound is required in packing. Mr. Harbison had his own men load and handle his honey. 7th. Cannot say. Probably San Francisco. Write to California Emigration Association, San Francisco, for information, &c.

In regard to the quality of California honey it seems to be the opinion of every person who has tasted it, with whom I have talked, that it cannot compare with our white clover, except in looks, "Novice" to the contrary notwithstanding. But its looks sell it. Again, I am of the opinion that the present season will see a drop in the honey market as there probably will be shipped from California three quarters of a million pounds, and this with glucose so cheap, will materially reduce the profits of bee-keeping for Eastern apiaries. Look out for it, brother bee-keepers!

Bro. Moore, of Binghamton, N. Y., seems to think that I argue (in regard to shape of frames) a good deal from theory. Perhaps so, but my theory is based upon well-known laws of heat which operates in a hive of bees the same as anywhere else, and all my queens lay their eggs in a circular brood chamber, and I think any other queen will when not cramped by an oblong, horizontal frame. But it seems a pity that a young be-keeper, at least, cannot agree upon some one standard size, at least for the top box, and then let any one have the frame as deep or as shallow as they please.

Mr. Dadant says they have adopted this plan in Italy.

Hurrah! I now propose to all young bee-keepers, about starting an apiary, a uniform length of top box, and suggest 15 inches. This is a concession on my part for my frames are 12¾x12. Who do it?

Chicago, Ill. R. J. COLBURN.

For the American Bee Journal.

On The Field Again.

Time has wrought a good many changes since I last wrote you. My attention has been turned a good deal, to other things for the last two or three years. So that I have not taken the interest in my bees that I should have done. But now I am thoroughly settled in my pet business on the "far off" Pacific coast, and from this "land of honey," as well as "land of gold," I propose shaking hands again with my brethren, through the columns of our beloved AMERICAN BEE JOURNAL.

The glowing descriptions of this coast as a honey-producing country, induced me to leave home and friends in the beautiful Mississippi Valley and seek a home in the mountains of Southern California.

There is so much in this country of interest to bee-keepers that I hardly know where to begin. I will, however, begin at the beginning and tell something of the history of bees in this State.

The first bees brought to California was in March, 1853, by Mr. Shelton, who bought twelve hives at Aspinwall. These dwindled down to one before swarming season. This one threw off three swarms, two of these were sold in the fall, one at $105, the other at $110. The next lot were imported in 1855. But

not until 1857 and 1858 were there many bees brought here. So that by 1860 there were several thousand colonies of bees in this State. In the year 1860 Mr. A. J. Biglow brought from the apiary of Mr. S. B. Parsons, of Flushing, L. I., 113 Italian queens, and arrived safely in Sacramento with 111 of them. So you see that the Italians had nearly an even start with the blacks here. Although it has been but a short time since the first introduction of this noble insect along this coast, yet for several years past the woods and caves have been full of bees, and thousands of them have been taken by hunters every year. The Italian stock is mixed with many wild bees. Notwithstanding this country is so well adapted to the culture of the honey bee, and this insect has done so well here, it has only been a few years since the real resource of the country, in this particular, has been known. At first bees were kept on the valley lands, where they do well, but make an inferior article of honey. But the honey district is on the western slope of the mountains, and is comparatively a small district. There are, it is true, many places not yet occupied by apiarians and many others that never will be occupied, owing to the want of water. My present location is in the Santiago Canyon, 30 miles S. E. of Anaheim—my P. O. The surroundings are beautiful and we have 150 colonies of bees, from which we have taken up to the present date, 3600 lbs. of honey. We expect to take 30,000 lbs. and increase to 300 colonies, this season.

The honey-producing plants here are almost innumerable, as every plant and shrub on the mountains has a bloom from which the bee gathers honey, some are in bloom the year round.

A swarm put into an empty hive in November will live through winter and probably swarm in May next.

The earliest plant is the manrinata, which blooms about Christmas and produces a great deal of honey. Then comes in the many varieties of willow—some for pollen and others for honey. From February 1st there are a succession of plants in bloom, giving the bees every opportunity for swarming by the middle of March. Through April they have ample time to become strong for gathering honey from sage and other varieties of bloom in May, June and July. The principal plant is white sage, which blooms about the middle of May and continues in bloom about seven or eight weeks, and from which the best quality of honey on earth is produced. [I am going to send you some, Mr. Editor]. The white sage grows on the hottest and dryest portions of the mountains, and produces abundance of honey every year, whether it rains or not; the hotter and dryer the better. There has never been a failure known here in the bee business owing to the season.

In my next I will tell you something about the country, inhabitants, &c. Until then, remember me as of old, an

AMATEUR.

For the American Bee Journal.

A Suggestion—Be Honest.

Bee-keepers are not looked upon with much favor by the general public. Any individual, who has earnestly endeavored to enlightened his neighbors, in regard to the mysteries of bee-keeping, has found himself, at some time associated in their minds, either with insane persons, or with the venders of wooden nutmegs.

Now, there is, perhaps, nothing which has tended so much to bring this about, as our enthusiasm and generosity. Unlike men in many other callings, the bee-keepers are willing, yes, *anxious*, that the people should understand the mysteries of his trade. And who ever heard of a bee-keeper that was afraid of competition. On the other hand, he believes that "anybody can and everybody should keep bees."

Now, is it not high time that we should desist from some of our talk in this respect. True, anybody can *learn* to keep bees, but it is not one in a thousand who *will*. And why should *we* find fault. Now we know that under favorable circumstances, and with the experience of years, we do sometimes realize almost fabulous profits, from our little workers. We further know, that to the expert bee-keeper, there is no investment of capital, that presents so few liabilities to lose as this. But it is not so to the Novice. Many things of vital importance, while they appear very simple, nevertheless cost us patient toil, ere we learned them.

I have had men come to my apiary, and seeing the ease with which I could handle the bees—make new swarms, extract honey, &c.,—have begged me to come and fix up their bees. I have done so at even a personal sacrifice; all would go well for a time, but suddenly I would be cursed for killing his bees.

Now the fact is: Bee-culture is not such a *simple* thing after all. True, it is briefly comprehended in one saying: "Thou shalt keep thy stocks strong," but the *minutia* of its *modus operandi* is as complex as that of any trade in the world.

To become a successful bee-keeper, requires hard, steady, patient toil, careful observation, and study, and experience gained even under failure.

Besides, we all know, that the movable comb hive and extractor, the very instruments which in our hands multiply our stocks and double our profits; in the hands of the novice, are instruments of destruction, no less certain, but more cruel, than the much-abused "brimstone pit."

Now I believe, that there is no class of men in the world more honest, than the intelligent bee-keeper. But we are too modest; we hate to tell men that they can not do all that they see done.

Now let us be honest in our statements to the people. Let us quit trying to persuade *everybody* to keep bees, on the improved plan. Let us still be ready to instruct a man in our art, but when he has heard our say, and is indulging in gay dreams, of future bliss, when mid countless swarms of bees, he shall bring forth rivers of honey, from every teeming hive; let us be honest enough to tell him that, "He knoweth nothing yet, as he ought to know," and unless his business has been *unusually* well learned may expect his efforts for some time to be crowned with disappointment and failure. "Aris."

Esparcet Culture.

From the little work, just at hand, by Fried. Aug. Pinckert, we glean the following, touching in brief, upon the climate, soil, care, tillage, &c., required for the cultivation of Esparcet.

In the preface he says: "The Esparcet is now considered, among all the known fodder-plants, especially among the clover kind, the most nourishing, and therefore the most valuable to the agriculturist; and enriching the soil, is equal if not superior, to trefoil." (*Luzern—Ger.*) which he considers next best.

"It will flourish," he says, "where red clover and trefoil will not, on places such as rocky hillsides; especially were chalk and lime-rock abound." It will strike its roots from eight to ten feet into the ground, winding its way through fissures in the rocks, and making the land mellow for less deep-rooted plants.

"It contains," he continues, "more nourishment—68 parts in 100—than any other kind of fodder; and for taste is preferred by all kinds of stock, holding it as a real titbit. It is also best for milch cows. It does not furnish so much hay per acre as some other kinds of clover, but what it lacks in quantity, it makes up double in quality." So much then for its value as a farm crop, now then for its cultivation:

Endurance—Its endurance depends entirely upon the soil where it is grown. It has been known to grow vigorously from 15 to 20 and 30—Peter Lawson asserts 100—years, the average, however, is from six to ten years.

Re-sowing.—After it ceases to yield a good crop, break up and put in grain, &c., until these cease to bear profitably, then again put on the Esparcet; but not sooner than 15 years after breaking, unless the soil has has been prepared for grasses with land-plaster, &c.

Climate.—"As it is a native of a warm climate, it will, of course, flourish best in a wine climate, but experience proves it will also prosper outside of this climate." It will grow wherever red clover can be grown with certainty.

Location.—"Sunny, high and free places are the best, for it is often injured in low places by the dampness, honey and mildew. Even for the following reason it should be sown on high, uneven ground, and steep hillsides, because of the excessive labor to cultivate annuals in such places"—in short, it appears no matter how poor, miserable or unthrifty the location, it is good enough for Esparcet! Provided, however, if grown on such ground, it receives careful preparation, and a yearly manuring with land-plaster, &c.

Soil.—Its growth depends on the lime, chalk, marl, and gypsum parts which the soil contains. In localities where these formations are to be found, its growth is almost certain. It cannot endure a wet, strong clay or low, marshy soil. Summing up all he says about the soil, there is no doubt it will flourish where our grains are grown with success.

Tillage.—Deep plowing, and careful preparation are essential; but in gravelly places where the plow cannot be worked in, it will prosper nevertheless; but it should always be kept free from weeds, as its growth is sensibly affected by their presence. Should the soil be too poor to nourish the young plant, it will be necessary to manure with guano, bone-meal, &c.; but as seldom as animal vegetable manure is necessary, it is most essential to employ the mineral manures.

Sowing.—The best time for sowing is in spring, but it can be sown in the fall with other crops. Sow at the same time with your other grains; even as late as buckwheat time will do. The quantity in bulk would range about the same as wheat, or perhaps oats. Mix it with these, or other grains and sow broadcast or in

drills. Rolling, as with grains, is very beneficial. It is well, after your grain has been cut, if the soil is dry, to drag it over well, to remove and kill all weeds that may have sprung up; this in fact, should be done every year.

Blossom.—It begins to blossom from the middle to the end of June. The book does not enlighten us as to the length of time it remains in bloom.

Mowing.—Should take place as soon as it is in full bloom, if the best quality of hay is desired, then it will also furnish a medium after-crop. But bee-keepers will know how to regulate that to their own benefit. The hay is handled the same as red clover, although it will dry somewhat sooner. Cattle may be turned on in the fall, but not sheep, as they injure the plant by browsing, we think, too close to the ground.

Seed.—If desired for seed, it should be allowed to stand until the pods present a half-brown appearance; if allowed to stand too long, storms are apt to shake them off. The first mowing is generally selected for this, and from field that are too old to yield a good crop of hay. Treat it the same as buckwheat, setting it up in small bunches in the field; be careful not to handle it too much in gathering, and thresh it in the field as soon as gathered. The germs remain good for three years. KRUSCHKE BROS.

Berlin, Wis.

For the American Bee Journal.

Handling Bees.

I have no doubt that many apiarians as well as myself, have often looked over the index to the BEE JOURNAL to find some special direction as to what to do and what not to do in an emergency, and sometimes it is a difficult task. Hints are given here and there under various heads but not without much searching—and then, not altogether satisfactory. The great value of a book like the BEE JOURNAL, is a very full and complete index. I have chosen the above title as the best I can think of, and yet it does not convey the whole idea upon which I wish to call the attention of beginners in this delightful occupation.

Coolness and deliberation in manipulating bees, is one which may well be studied and practiced. In my own experience, (I have kept bees for many years), and in my observation of others, the thought of opening a full hive of bees has been with such feelings of trepidation as to start the perspiration in streams and cause very unsatisfactory work. It is not so now with me, at least, for I have learned to keep cool, and perfect my work with deliberation. For the sake of others, especially beginners, I would like in this article to give a few hints.

In the first place, notwithstanding the opinion so often expressed to the contrary, it is well to use *some protection*; a black veil of black millinet, drawn over a broad brimmed hat, and woolen gloves—with the thumb and fore-finger cut off—will afford a confidence and self possession which will go very far towards giving the desired coolness and deliberation.

I often handle my bees without any protection, whatever; but I can never be absolutely certain that some dyspeptic bee will not fly in my face and close up my eye, or add huge proportion to my nose. And this for a man who every day or two has to speak in public, is, to say the least, not desirable. So, too, with the utmost care, a block will tip over, or an involuntary jar occur, which will arouse a dozen to make an attack. To keep cool, therefore, first protect yourself.

Again, when operating in warm weather, it is *not necessary to be in a hurry.*

The air may be full of bees, but they will all find their place. Broods will not perish or be injured in the space of time required for most operations. A whole hive may be spread out on the different frames in the shade and every comb deliberately studied without being at all injured. It is all important to know and decide at the outset, before the hive is touched, what you intend to do, and make your preparations accordingly;—have *everything* required on the spot, arranged within easy reach. Thus, a black queen may be caught, or her wings clipped; crooked combs straightened, or drone comb cut out and replaced by worker comb, &c., &c., all in one operation.

The want of deliberation causes the death of many bees, and the rest needlessly irritated. It is an art to handle bees well, only to be acquired by practice. And there is great satisfaction after performing a difficult work (as for instance to transfer the combs of a box hive into frames) and feel that you have not needlessly crushed a single bee. It can be done, but the hive, the frames and combs must be handled as gently as you would a full tumbler without spilling a drop.

D. C. MILLETT.

Hamburg, Pa.

For the American Bee Journal.

How it Looks Here.

It is not often that I attempt to write for the JOURNAL, always believing that better matter is furbished by others. I am more discouraged this spring than I have ever been about bee-keeping; the season is as least one month later than usual. Fruit blossoms of every kind are killed or nearly so; a few blossoms are left; the bees got barely enough to sustain life. The succeeding blossom (locust) is frozen, and leaves and all, killed. We have nothing to depend upon but white clover, which is abundent in this section, and the succession of fall flowers. I shall sow buckwheat and try to gain something by that means. By this time other seasons, I have had bees working in the boxes and preparing to swarm, but now they are just beginning to breed rapidly, and if they are fed to keep them alive and breeding when clover comes, if that don't fail too, we may yet get some surplus. Bee-keepers were very hopeful as bees wintered so well, last winter; there were scarcely any lost in wintering, and good results were anticipated. "Man proposes but God disposes." There will not only be a scarcity of honey, but fruit, of all kinds, except the latest varieties. Frost has killed the young clover, blackberries, raspberries and strawberries. Every thing in the fruit line is a failure. I would advise every one in localities that suffer as in this, to feed, and feed sufficiently to keep their bees moving; they will gather some little, and out of the gloom that now surrounds us, we may yet have sunshine. R. W. HARRISON.

Melrose, Va.

From Practical Farmer.

Transferring Bees.

The apiarian often finds it necessary to move his bees out of a defective hive to a good one, and from box hives to those with movable frames. They could be driven into an empty hive just before they have commenced gathering honey freely in the spring of the year, and they would do as well at least as a top swarm. But the brood and bees bred in the hive at that time of the year would be of no value to the bee-keeper, which if given to the colony would be worth as much to them as a medium-sized swarm. We have practiced the following method since the introduction of movable comb frames, which has been over twenty years. It can be done out doors in the open air, if it is not too cold to chill the brood, and bees are not disposed to rob. We prefer to use the kitchen, wash-house or clean barn floor to operate in. The kitchen table is very handy to lay the combs on when taken out of the hive, and to work on in fitting the combs into the frames; a good substitute is made by laying a broad board on the ends of two empty barrels. Have a dish of water and cloth to cleanse the hands occasionally, and wipe up such dropping honey as cannot be lifted with a knife-blade. Keep everything clean, and allow no honey to run, if possible, which prevents other bees from troubling you. A hatchet, long knife, and thin cold chisel, should be in readiness, also a box to force the bees into. You are now ready for the hive of bees. Light your fumigator or smoker; step up to the hive on the stand and carefully give the bees a few whiffs of smoke, when, if they be clustered on the outside of the hive, they will soon leave for the interior. Raise the front of the hive a little—this will allow the bees to enter more freely, and also give a better chance to reach those inside with smoke—and administer enough to make them roar well, as this is evidence of their giving up or surrender. You can now proceed to do anything with them you wish.

Now take up the hive and carry it to the place of transfer; turn it bottom up on the table and blow more smoke down among the bees; then place the forcing-box on the mouth of the hive, so that the bees cannot get out. Hammer on the hive, which will cause the bees to fill themselves with honey and travel up and cluster in the top of the box,—which requires from 7 to 10 minutes; then remove the box containing the bees to the floor near the table; pry off one side of the hive so as to enable you by the use of the long knife to get the combs out as whole as possible; brush off the few remaining bees with the feather-end of a goose or turkey quill, near the box containing the bees which should be raised on one side, so as they can run under and cluster. Take the frames out of the new hive; lay one on a comb and mark it around on the inside; then trim off the comb in such a manner that it will hang in the hive same as it did in the old one (top edge up); cut the comb a trifle larger and spring the frames over it. Fit in all good pieces of good worker comb, especially those containing brood combs; those that are too thick to let the frames together should be shaved off.

The drone comb may be known by its large coarse cells and should be rejected by which a stock is often rendered very prosperous that was no profit to its owner

before. Now set the combs in all the new hive and close it up — except the entrance.

Hive the bees from the box into the hive, as you would a new swarm: then return to an old stand (which should be occupied with an empty hive during the process to retain the straggling bees.) If no bees appear to be troublesome, contract the entrance. We have used melted roson and beeswax to secure the comb to the frame; thorns inserted on the sides and bottom of frames, through holes made with an awl into the comb, make them very secure; slips of tin can be used to fasten the combs to fit the frames tightly, will save resorting to other means to secure the combs in the frames.

If transferring is done at a time when the bees cannot obtain honey, 2 or 3 combs should be given them, or fed honey from the chamber of the hive, until such times as they can gather it from the fields and forest, as a certain amount of honey is necessary to mix to repair and fasten the combs and food for themselves and the young bees.

During the blossoming of fruit is a nice time to transfer, and if not then, it is best to defer it until the appearance of white clover. SETH HOAGLAND.

For the American Bee Journal.

How to Prepare Comb Honey For Market.

Make a strong case of rough boards in shape to suit the boxes, the weight when filled not to exceed 200 lbs.

Prepare the boxes by making all as tight as possible, so that should any breakage occur the honey will be in the package.

Pack the boxes either in the original position as filled by the bees or inverted; never on the side or end.

Make all firm within the case; when needed, drive in a rough wedge.

When this is completed, fasten securely near the top on each side of the case a strip four inches by one, projecting eight inches at each end, to serve the purpose of handling in carrying, and prevent its being turned on end or otherwise roughly handled.

Mark plainly on the cover, "Honey—this side up with care."

We prefer to return all packages, for the following reasons:

The producer generally weighs his cap boxes when new and dry, and deducts the same as tare when selling. The buyer purchases net weight, and after cutting out the honey finds that each box weighs from eight to twelve ounces more than the tare allowed him. This difference is almost certain to cause dissatisfaction on the part of either the buyer or seller.

We take the box apart carefully, and fasten the several pieces together with a nail or cord.

When packed in a case and shipped in this manner the freight seldom exceeds two cents per box. These packages when wanted for use have only to be tacked together, and they are equally as good as new ones costing from ten to fifteen cents each.

We refer to the box most commonly used, (and really the most profitable for the bee-keeper), made of ⅞ inch stuff, 14 inches long by 6 inches square, containing from 12 to 15 pounds of honey.

JESSIE D. LIPPINCOTT.

Pittsburgh, Pa.

For the American Agriculturist.

Bee Notes.

Among the domestic animals we have various grades of improvement. Among horses and cattle, the various breeders find points in each grade that they wish to propagate for some purpose. They select parents that have points that they expect to find in their offspring. The beautiful Durham is not expected from the wild race of the tropics. Among bees the beautiful and amiable Italian is not expected from the black, vicious, and often more indolent native. Both varieties may have some traits that is desirable to propagate, while both have some which might be advantageously left out. One stock may possess vigor and industrious habits, and a disposition to resent any measure that seems to them an approach to robbing them of their stores. Another may be indolent to collect much, and lack energy to protect what they have. Accumulation of stores is what is usually wanted. If industrious habits and a mild disposition are found combined, that is the breed to propagate from. With most of us these traits are only ascertained by close and attentive observation. Thirty years ago an old lady, when asked to fix a price for one of her colonies, replied that she had smarter bees than any one else, they swarmed early and often; she had probably discovered a fact, without being able to trace it to any cause. What is there to prevent changing all our stocks into the best in one summer, if all the queens are selected from such only? It is time this point received attention. In rearing cattle, it will not do to check the

growth by an insufficiency or an inferior quality of food. Queen bees need a full development as well as cattle. Much discussion has been had relative to rearing queens in full stocks, or in small nuclei; some claiming that a full stock is the most natural. It will not be discussed here, further than to say that a full supply of nutriment is required to rear good queens; usually the least trouble and expense, where many queens are to be reared, is to make a little box to represent a movable comb hive. Combs of full size of hive can be used on the same principle, the size makes but little difference, if there are nurse bees enough. It would seem that the Creator had designed especially to facilitate the increase of the best stock. In addition to the number of queens provided, when a swarm issues naturally, it is so arranged that they can be increased almost indefinitely. Eggs of fertile queen are of two kinds—one produces males, the other females. Means of deciding which will produce drones and which workers are given to all observers, as one kind is deposited in worker cells, the other in drone cells. Whether the *act* of depositing the egg in the large or small cell decides the sex or not will not now be discussed. One thing is certain, the eggs deposited in the worker cells that ordinarily would produce workers, can be converted into queens. When young bees not many days old, are destitute of a queen, and are provided with eggs, or young brood, in season, they at once proceed to provide one or more. It is well to wait, before commencing to raise queens, until there is a prospect of drones hatching, as soon, at least as the queens do. If bees, to commence with can be procured a half mile away, is better. Get a quart or thereabouts. Now, from the stock you wish to breed from take a piece of comb containing brood. It is better to get it all of one age. The first or second day after the eggs are hatched, is best. Take out the comb containing brood, and hold it so that the light shines directly into the bottom of the cells. Find a spot where the eggs are just hatched. Take such; as queens will mature from them a little sooner than from eggs just laid. The larvæ that have been fed too long as workers, cannot be so well developed into queens by nursing. New comb is better than old. If old and tough, cut off half the length of the cells with a knife. Cut out a piece 3 or 4 inches long, ½ an inch wide. Then cut from a large piece—let it be clean—a place that this will just fit. Give an inch space under it. Let the piece of brood be crowded in firm enough to hold a few hours, until the bees weld it fast. Combs should contain abundant honey for several days. If bees to raise the queen are taken from the home yard, they should be mostly young, if possible. Go to a strong stock in the middle of the day, when most of the old ones are out to work, raise out a comb or two, and shake or brush the bees into a box, made with joints close enough to keep them when the lid is on. Young bees will not be apt to fly. Have a little piece of wire cloth one side somewhere, in hot weather, for ventilation. Make a hole in the bottom of the box, in which the combs with the brood ready for the bees are to be put, and one to match in the top of the one with bees. Open both and set the two together, and the bees will creep into the upper one with combs and brood. Keep confined for thirty-six hours or more, when they may be allowed to fly out from the stand they are to occupy. More than one piece of brood can be put in the same comb, if many are wanted and there are bees enough to take proper care of it all. If brood that is taken for queens is not over two days old from the egg, a queen cannot be matured from it in less than ten days. When the first one matures and comes out of the cell, she makes it her business to look up other queen cells the first thing, and destroy every competitor. If the bee-keeper wishes more than one queen, the extra cells may be cut out before any hatch—leaving one. Put those taken out in their natural position into a box, prepared as for brood, using cell instead of brood. Manage as before and a gain of several days will be obtained. As many as there are cells can be prepared. Care is needed not to bruise the cells, or turn them over roughly. The queens inside may be very tender, and rough handling may kill them. When combs of full size of hive are used, instead of small ones, a little more care is needed to keep warm, etc. There will be this advantage in large combs. The queen can be established in full colony, and there is no trouble in transferring her. When she is once established, and begins to lay, go to a hive that is well filled with sealed brood that needs no further nursing, take one or two, shake off the bees, and put them in with the young queen. No fighting will occur with the young bees as they hatch. More combs may be added until it is thought to be strong enough, with what they will rear of their own. When an increase of colonies is desired, instead of surplus honey, they can be increased faster in this way, than in any other. New colonies can be made to assist others

long before the summer is through, when managed properly. Remember it is best to have all colonies strong by having others to assist, when necessary. Do not allow bees to sit outside and do nothing for want of room in the hive to store their gatherings. If no room can be given for boxes for surplus or combs to hold honey for extracting, it is best to add to the number of colonies. Continue to examine into the exact state of every hive. M. QUINBY.

St. Johnsonville, N. Y.

For the American Bee Journal.

Cincinnati Exposition.

MR. NEWMAN—I send you one of our Premium Lists for this year's Exposition. The follwing is an extract therefrom relative to Bee matters :

CLASS NO. 21, BEES, BEE HIVES, ETC.

277. Best Entomological Display of honey bees, any or all varieties, and their products, Bronze Medal.

278. Best average product, per swarm, in extracted honey from apiary of any number of hives, Bronze Medal.

279. Best average product, in box honey, from apiary of any number of hives, Bronze Medal.

NOTE.—In Premiums Nos. 278 and 279, the exhibitor may select the swarm or swarms which he intends to use for competition, but they must not be aided by or assisted in any way from any other swarm from April 1st to September 8th, and the decision shall be based on the amount of extracted honey taken from those swarms so selected, and from the swarms, if any, produced by them during the time between April 1st and September 8th.

280. Best display of honey, extracted or in comb, or both, Bronze Medal.

281. Best display of honey in the comb, Bronze Medal.

282. Best display of packages for retail, Bronze Medal.

No. 277 may need some explination. We expect under this number to receive cases containing specimens (dried or pressed), if queens, workers and drones, in their different stages of development (in the cell and out of the cell) from the egg to the death at maturity; also specimens of the different kinds of cells. The eggs, larvæ and fly of the bee mouth etc., etc., etc. in fact any thing belonging or incident to the working of the honey bee in its wild and domestic state. The other numbers explain themselves.

I suppose that if any entries from a distance, or rather, from those who are not personally present (in Nos. 278 and 279) they should be accompanied by an affidavit (sworn to) of the facts. This, however, is my own opinion only, there is no rule for it, but it would certainly be safer. H. W. STEPHENSON.

Cincinnati, O.

Bee Forage.

A writer asserts that he has had buckwheat to bloom in thirty-five days from the time of sowing it, and as it will begin to bloom when over six inches in height, if the season is a dry one. For this purpose sow about a bushel, never exceeding three-fourths of a bushel, of seed per acre, running over your land with brush similar to that used for putting in wheat, or the ordinary roller without the brush.

A correspondent says: If you wish to preserve the plant for forage, after your bees have used the fields for six or eight weeks, you can do so and save an enormous yield of nutritious forage. Cut with ordinary scythe, or grass blade, just before the seed begins to brown, and cure as you would coarse characters of grass. The product thus secured will amply remunerate the outlay of money for seed and time and labor, and give to your busy little friends abundant stores of delicious honey.

About California.

W. J. Whitney, of San Barnardino, California, has sent us the following general directions about emigrating to that State, in answer to the following questions :

Don't think of shipping bees here from east of the Rocky Mountains, as it will be money and bees wasted. If you can get half what the hives cost there, you had better sell them than to ship them.

Now for your questions in regular order.

1st. What can good stands of bees be bought for in your vicinity? A. From $4 to $12, according to condition, style of hive, &c. In Los Angelos, for $2 50 in Harbison hives, the honey they make there, not being saleable, since San Diego honey came into market.

2d. There are two mills dressing, cutting up, and putting together (if wanted), at the following prices :

Harbison's, ready for putting together, $1.80.

Langstroth's, ready for putting together, $1.70.

Watson's improved Langstroth for five section boxes, $1.90.

Louth's improved hive for section boxes, the best yet out for this country, $1.95.

Section boxes for surplus honey, 13 cents each.

Cases, 22 each to hold 4 section boxes, can be had in any quantity.

3d. Plenty of work to be had during haying and harvest threshing, &c, at from $2 to $3 per day and board. We can raise any amount of broom-corn or any other corn you wish to plant. I should think broom making could be made to pay here as they are worth from 40 cents to $1 each, according to quality. There has been no broom-corn raised here for market yet, that I know of.

4th. We think fruit raising and bee-culture our "best hold" here. We raise apples, peaches, plums, apricots, quinces, figs, almonds, walnuts, oranges, lemons, blackberries and strawberries. Of grapes, we can beat the world. I have the White Muscat, Fleming, Tokay, Rose Peru, Hamburg and Mission, or native California grapes. We also raise pumpkins, squashes, melons of all kinds, beets, beans, potatoes, sweet potatoes, and in fact, anything which will grow anywhere from the Equator to the Arctic Circle.

5th. This country is good for men with much or little means.

6th. Country new and inhabitants scattering, but coming in pretty fast. I am 12 miles from coast; from post office 5 miles; have no school now, but expect to have this summer in the new Granger's hall, which I am now building near the post office.

7th. Don't know of any improved land with buildings for sale, unimproved from $2 to $10 per acre. Government land for the taking up.

8th. The same land needs irrigating for summer crops, not for grain or grass. Bees make honey nearly all or all the year round.

9th. Cost of clothing about 25 per cent. above eastern prices. Flour $5.50 to $6.50 per barrel. Beef 5 to 6 cents. Will not pay to ship anything but bedding and clothes.

10th. Society good.

11th. Climate healthiest in the world. No cholera that I ever heard of. Very few poisonous reptiles. Once in a while a rattle snake may appear. I have killed 4 or five in the yard since I have lived here.

12th. Rough lumber, red wood and pine, at $26.00 per thousand feet. Common red wood planed on one side, $28.00 to $30.00. Rustic, $45.00. Matched pine flooring and ceiling, $35.00. Surfaced red wood, $40.00. Bee hive lumber, $30.00. Nails, $5.50 per keg for 8ds. Doors, $2.25 to $4.00. Windows, $3.25 to $6.00.

13th. Hauling can be done for $10.00 per thousand feet. Climate so mild that a very cheap house will answer. Never any snow and but little frost. Never cold enough to need a coat on, except at night or when it rains.

Pruning Bees.

Most apiarians would be benefitted vastly by having the combs lifted out of each hive just before they gather any quantity of honey to fill the combs and give them a thorough examination; some have too much drone comb which should be cut out; others have ill-shaped or crooked combs, which may be straightened or cut out. Brood combs after being in use a few years, get filled up with cocoons so as to reduce the size of the cell and require more labor of the bees to keep them in order than to make new ones. We have extracted out of one cell forty-four cocoons or bee shrouds, which was evidence that forty-four bees had been raised in this cell; such combs should be rejected, but not on account of being black or of a dark color.

The dressing up of the combs of a stock of bees, if properly done, will encourage and infuse new industry into them. We have known colonies that were doing little or no good, which, by pruning, were made to pay a large per cent. The combs of each colony should be examined, at least once a year; a careful inspection will do a prosperous colony no harm, while it will aid the defective ones.—*Sel.*

Bee Pasturage.

The right time to sow buckwheat for bee pasture is about the first of July. If sown then, it not only forms the best pasturage for the bees, but usually yields a good crop of seed. It is one of our best honey-producing plants. The proper quantity to sow to the acre is one peck, although some prefer to sow two pecks. I raise it largely, and succeed best by sowing only one peck to the acre. The number of acres required for thirty colonies of bees will be about four, if it is a good season for securing honey. I have known one acre of buckwheat to furnish food enough for bees, so that 800 pounds of honey and 85 bushels of grain were made from it. This was, however, an unusually favorable season. Five acres are the least that should be sown for the number

of colonies mentioned, as it is better to have too much than not enough.

I have not tried the alfalfa clover. It can be had of any of the seedsmen in St. Louis, the retail price being 75 cents per pound, prepaid by mail. I would also suggest the sowing of melilot or sweet clover, for it is a No. 1 honey-producing plant. The price is the same as that of the alfalfa. I would sow in addition to those named, alsike clover, catnip and rape seed. The latter named plant delights in a rich soil. J. G.

For the American Bee Journal.

Do Bees Sleep.

It has not, we think, been proven that bees ever sleep. We have never seen one either in winter or summer asleep. Analogy and their very active industrious habits would lead to the belief that they do sleep. When, where and how they sleep, we have hitherto been unable to discover. In summer they work both night and day, and never seem to tire. In early life we thought they worked harder after a day of rest—that is to say, if weather kept all at home for twenty-four hours they were recruited in strength and vigor, and worked better the day following. In later years we have considered that in the absence of outdoor labor more work is done in the hive. When weather is favorable and honey abundant we know that frequently honey is gathered into hives faster than the indoor laborers can manage—it accumulates too fast on their hands. The cessation of outdoor work for a time enables the bees to remove the accummlations of honey from the center combs, and store it up in their outer and upper edges. Thus the domestic arrangements are advanced, and room made for more honey, and more laborers are set at liberty to gather it. When bees have no domestic work to attend to, as is the case when a swarm is put into a hive of empty combs, they work prodigiously fast. By-and-by the brood and honey of such a hive require much attention. Hence, outdoor work activity seems to abate. But when no bees leave their hives we have never been fortunate enough to find one asleep or anything like it. Young queens on coming to perfection sometimes pipe or call for seven days without cessation. During that time they can get no sleep. And if in be true that pregnant queens deposit in cells two thousand eggs a day—that is, eighty eggs per hour, throughout the summer months, when, pray, can they find time to sleep.

In winter bees have few domestic duties to perform, and there is no honey to gather. But the question of bees sleeping or hybernating in winter is just as difficult to answer as that of sleeping in summer. I know what others say on this question, but I like to read nature through my own eyes. I have examined hives at all seasons, even when there were 20 degrees of frost, and I never found a bee asleep. Still I do not say that bees never sleep. Can any of your readers give evidence on the question.

A. Pettigrew.

From the Practical Farmer.

Ages of Bees.

The queen passes about three days in the egg and five a worm; the workers then close her cell, and she immediately begins to spin her cocoon, which takes her from twenty to twenty-four hours. On the tenth and eleventh days, and perhaps a part of the twelfth days, she seems to be exhausted by her hard labor. She now remains in almost complete repose; she then passes four or five days as a nympha, and on the fifteenth to the sixteenth day a perfect queen is attained. Much depends upon the strength of the colony and the heat of the season, which will vary it from one to two days.

The drone passes three days in the egg and about six in the worm, and changes into a perfect insect on the twenty-fourth day after the egg is laid. Much depends on the strength and heat of the colony, which should be about 70° Fah., for their speedy development. They lay in rather a dilatory state for several days after they hatch, before taking wing.

The worker bee spins its cocoon in thirty-six hours. After passing three days in the egg in this state of preparation for a new life, it gradually undergoes a great change, and becomes armed with a firmer body with scales of a brownish color and somewhat fringed with light hairs. On its belly it has six rings or scales. After it has reached the twenty-first day of existence—reckoning from the egg—it comes forth from the cell on the twenty-first to the twenty-second day a perfect insect, and is termed an immago. This is the simple stage of the worker bee, as it is fully developed when it comes forth, except in size, it soon becomes a sportive inhabitant of the air, and ready to enter upon the duties of gaining a livelihood, which varies from six to eight days from its birth, the all seems to be business the remainder of their existence.

A. F. Moon.

The Southern Kentucky Bee-Keepers' Convention.

The Convention met according to adjournment at the residence of R. A. Alexander, near Smith's Grove, Warren county, Ky., on Monday, the 19th of May. The Convention was opened by prayer by R. W. Stithe, of Harden county, Ky. Roll called, all the officers present and most of the members.

Prof. Wheeler addressed the Convention on the objects of the meeting, and urged all bee-keepers present to become members of the Convention. On motion the Secretary read the constitution and by-laws, and the following persons gave their names as members of this Convention :

James Erwin, Claypool, Ky. ; B. F. Doddson, Knob Lick, Ky. ; Dr. J S. Stephenson, Glasgow Junction, K. ; I. W. Landrum, Tracy, Ky. ; I. H. Greer, Glasgow Junction, Ky. ; J. W. Cook, Smith's Grove, Ky. ; J. C. Stithe, Smith's Grove Ky. ; J. W. Scriman, Smith's Grove, Ky. ; T. E. McDancel, Smith's Grove, Ky. ; Moses Potter, Rich Pond, Ky. ; R. W. Stithe, Grand View, Ky. ; R. F. Bethel, Glasgow, Ky. ; J. H. Johnson, Allensville, Ky. ; Ky. ; Wm. Cheek, Burksville, Ky. ; T. E. Shelton, Russelville, Ky. ; Miss Molly Shelton, Russelville, Ky.

The Secretary read a communication from Charles Dadant, of Hamilton, Illinois, on the importance of removing drone combs and replacing it with worker combs. On motion, the thanks of the Convention was tendered Mr. Dadant for his valuable communication, and the Secretary was ordered to have it published in our local papers. The President appointed the following committees :

On apiarian supplies on exhibition, L. P. Smith, John H. Wallace, R. S. Munford, Moses Poter, R. F. Bethel, J. H. Johnson.

To prepare questions for debate at evening sessions, Prof. C. M. Wheeler, H. W. Sanders, R. A. Alexander, R. W. Stithe, J. H. Johnson.

On motion the Convention adjourned till 2 o'clock p. m.

EVENING SESSION.

President Allen in the Chair.

The committee on questions for debate, reported the following questions, and on motion the report was received and committee discharged.

1st question. What is the best time of year to transfer bees ?

2d. Is artificial swarming better than natural swarming ?

3d. What is the best vegetable to cultivate for bees to gather honey from ?

4th. What season of the year should bees be fed ?

5th. How can we manage bees to secure the greatest yield of honey ?

C. M. WHEELER.
R. W. STITHE.
J. S. STEPHENSON.
H. W. SANDERS.

The Secretary presented an account for $2.00 paid out for stationery and postage for this Society which, on mention, was ordered paid.

The first question was then taken up : What is the best time of year to transfer bees ?

Mr. Munford said if they were in bad condition, they ought to be transferred without respect to the season of the year ; was not much in favor of transferring if hives were in good condition.

Mr. Cheek said he had but little experience in transferring, that he had 30 hives mostly in box hives ; said he found robbers were very troublesome while transferring when honey was scarce. Said he had a number of hives to transfer, and that he came for information.

Mr. Smith said he preferred early spring to transfer, that he fed the surplus honey, and if there was none, syrup made of A coffee sugar.

The President said bees could be transferred at any season successfully, if fed and cared for after transferring. That he preferred early spring in fruit blossoming time or about the time white clover begins to bloom.

The second question was then taken up ; Is artificial swarming better than natural swarming ?

Mr. Munford said bees are sure to prosper the best when they were troubled the least, did not like artificial swarming, thought it best to allow them to swarm naturally.

Mr. Alexander was in favor of artificial swarming, said he could give the new swarm a queen cell, or a laying queen, and with care we were sure of increase of colonies, as no bees would run off and be lost, as was often the case with natural swarms.

Mr. Munford.—There is no danger of loosing bees by natural swarming, if you have a suitable place for them to cluster, that he never lost any. A few years ago he swarmed a great many artificially, and the next spring they were all dead.

Mr. Smith.—Two years ago I knew nothing about bees ; saw Dr. Allen, the President of this Society, and he told the advantages of the Langstroth hive. I got some hives transferred, and they had but little brood, and in 30 days they were rich in stores, and had filled the top story with comb and honey. I made three new swarms out of the four, and they filled their hives and wintered well. I transferred them at the beginning of the white clover harvest.

Mr. Cheek.—My experience in artificial swarming is not very great ; but I can say I like it very much better than natural swarming. I save the trouble and vexation of watching our bees, and securing swarms clustered in difficult places to get to. Artificial swarming is preferable in many other respects.

Mr. Munford.—If I was a professional apiarian, I would use the Langstroth hive, but would keep some in box hives to get natural swarms from.

The President said he much preferred artificial swarming ; said there was various methods of making artificial swarms, he liked to have a laying queen to give the swarms. If when they are swarmed, the honey harvest was poor, they would put on feeders, and keep them on until the hive is full. The time for debating the questions having expired, on motion the discussions closed, and the remaining questions held over until the next meeting of this Society for discussion.

The committee on apiarian supplies reported as follows :

We would respectfully report that we have examined the honey extractors of R. R. Murphy and J. W. Winder, and think both are well adapted for extracting the fluid honey out of the combs which can be re-

turned to the hive to be again filled. We have also examined the Quinby and the Winder smokers for subduing bees, and can recommend them as valuable aids in the manipulations of an apiary. We also examined the glass honey jars of C. T. Muth, of Cincinnati, which pleased us very much, and we recommend them to honey producers for marketing fluid honey.

R. S. Munford.
L. P. Smith.
J. H. Wallace.
R. F. Bethel.

Prof. Wheeler offered the following resolution which was unanimously adopted:

Resolved, That we tender our thanks to the President and Secretary for their labors in behalf of this Society since our last meeting.

On motion of P. P. Colin, this Convention tenders Mr. Alexander and lady their thanks for their kind hospitality and sumptuous dinner.

On motion of Mr. Check, the Southern Kentucky Bee-keepers' Society adjourned to meet in Burksville, Cumberland county, Kentucky, the third Wednesday in September next, at 10 o'clock a. m.

H. W. Sanders, Sec'y.

The Bee Hive.

BY DR. S. V. SUMMERS, ENTOMOLOGIST.

1. The impression seems to be general that bees make honey, secrete wax, and perform other unique and semi-marvelous facts, quite at variance with other gregarous insects; hence we not unfrequently find our agricultural papers teeming with some wonderful manifested proceedings of these social tribes, confusing the novice, and deterring others from this instructive and profitable vocation.

2. We shall endeavor to confine our remarks to as practical and elucidated an account concerning these admirable insects as our space will admit.

3. The inhabitants of a hive comprises—one female, usually denominated a queen, a few hundred males or drones, and a multitude of neuters or workers. The female or queen bees have their *abdomen* more elongated, the color and markings scarcely differ from the males, head larger than the workers, tongue more abreviated, maxillæ less curved, mandibles furficate, angles less prominent, apex toothed, the external tooth acute and the internal obtuse or truncate, color piceous with redish cast, labrum fluvous, antennæ piceous, scales at base of wings rufo-piceous, wings only reaching to tip of third abdominal segment, tursi and apex of tibæ rufo-ulvous, the posterior tribœ are naked above, below clothed with short, dense, erect hairs, having the marginal border of hairs wanting, abdomen longer than head or throax combined, tip or dorsal segments of fulvous, clothed with very short, pliable, erect hairs. The males or drones are quite the reverse: body thicker, stouter, more clumsy, and very obtuse at extremity, head more depressed and orbicular, tongue shorter and more slender than in the females, mandibles smaller, wings longer than body, tibiæ long, club shaped, clothed with inconspicious hairs, abdomen cordate, short, not longer than head and throax, third and dorsal segments apparently naked, hairs only visible under a high magnifying power, remaining segments hairy. The neuters or workers are undeveloped females; they have a more elongate body, tongue longer and incurved, wings approximating the apex of the fourth abdominal segment, legs all black, posterior tibiæ naked above, concavo-convex, clothed with lateral and recumbent hairs, abdomen oblong, longer than head and throax combined, clothed with long flaveous hairs, vagina of the spicula straight.

4. Having detailed you to the different varieties contained within a hive—the existence of but a single female—you may feel somewhat curious to learn her origin. When a colony of bees by any mishap lose their queen, and are supplied with comb containing young working larvæ only, they will select one or more larvæ to be *educated* as fertile females or queens, which, by having their workers' cells enlarged and being fed with choice honey for not more than two days, when they emerge from the pupa state will come forth queens. Had they remained in their original cells, they could only have bred workers, yet here we have them with their form, instinct and powers of generation entirely different. In order to produce this change, the larvæ must not average more than three days old, and this is the age at which, according to M. Schirach, the bees usually select the larva to be royalized. Having selected the larva, they clean out the food and occupants from the two cells that adjoin the favored larva; they then remove the three cell walls, leaving the bottoms untouched, thence they raise round the queen larva a cylindrical tube, in a horazontal position to the other cells; this completed then they demolish the cells immediately beneath, from which they construct a pyramidical tube, which joins at right angles the horizontal tube. The bees keep lengthening this cell as the larva grows in size, at the same time they are constantly supplying it with food, deposited at its mouth and sides of abdomen. The larva keeps up a constant turning to reach this food, and thus insensibly arrives at the orface of its cell, when it immediately assumes the pupa, after which the workers close up the cell. Thus with this knowlege before us, we are at once informed how to make artificial swarms, and that this art of producing queens at will is no doubt practiced by many an apiarian of to-day.

5. With respect to the variations of instinct and character which result from the different modes of rearing the young bees, that we are now considering: Their instinct teaches them a certain kind of food, supplied to a larva inhabiting a certain shaped cell, in a certain position, will produce certain effects upon it, rendering it different from what it would have been under ordinary circumstances, and fitted to answer their peculiar wants.

6. The queen bee requires some sixteen days during her preparatory stages before she is ready to emerge from her cell. All bee larvæ are without legs, still by the before mentioned spiral motion are enabled at first to produce a slow movement, but after this it is more easily discerned.

Another notable fact connected with the life history of these insects: I refer to the cocoons. The larvæ of the drones and

workers spin complete cocoons, while those of the female or queen are incomplete or open at the lower end, and cover only the head, trunk and the first segment of the abdomen.

7. Our limited space will forbid any remarks concerning the hive structure or comb.

8. When fecundation has not been retarded, two days after it has taken place, the queen begins to lay eggs that will produce workers, and this occupies her sole attention during the first eleven months. But when it has been retarded, after the same number of hours she begins laying eggs and continues to produce these during her whole life, the exception to this rule is exhibited in females pregnated late in the year, when they don't begin laying until the following year. Reaumur says, that "upon an average she lays about two hundred eggs in a day, or a moderate swarm contains 12,000, which are laid in two months." Huber says she lays "100 a day;" while M. Schirach asserts, that in "one season a single female will lay from 70,000 to 100,000 eggs." All these statements, the observations being made in different European climates and perhaps under different circumstances and conditions, may be true.

9. The swarming of bees is a very curious and interesting subject. Unlike other gregarious insects, bees are confined to a limited space, which they possess not the means of enlarging; hence, to avoid the ill effects resulting from being too much crowded, they must necessarily emigrate. This they generally perform annually, but it does not happen that they often wholly desert a hive.

10. It may be as well to add that bees only collect honey and wax from plants, and do not manufacture them, as many suppose. In some future article we will give you an account concerning the so-called wax secretions.

11. In conclusion we wish to say a few words to the amateur bee-keeper: Procure a good colony, at a cost from $15 to $25, including hive. This expense is final, as you may easily construct all future hives yourself, at a very trifling expense. Your original colony, properly managed, should give you from three to six colonies at the end of the first season, so that your first supply of surplus honey will occur at the end of the second year; say at twenty pounds each hive, this would give you 120 lbs. net, which at thirty cents per pound, leaves you the nice little margin of $11, besides eighteen or twenty additional colonies for the ensuing year. It would not seem advisable to breed over 200 colonies, which will require six miles of pasturage, unless artificially fed.

12. With regard to the comb or wax: The bees extract it from the honey; every pound of wax represents about 25 pounds of clear honey; hence the preservation of old combs becomes of paramount importance; and right here in this connection, may be mentioned the invention of Van Hrushka, of Legnano, Italy, in a machine for extracting the honey from the combs without injuring the cells, so that the same comb may be used by the bees repeatedly. "To give a general idea of this machine, immagine to yourself a horizontal disk put in a rotary motion by a wheel; upon the edge of the disk are eight perpendicular parts, surrounded or connected by a wire screen, and thus forming an octagon on the disk. If now you hang the uncovered combs with their frames upon the post in the inner side of this wire octagon, and put the disk in motion so as to make about six revolutions per second, the combs will be emptied in one or two minutes. The honey is caught in a circular tube surrounding the disk, and drawn off at the bottom."

13. Remember, the great secret in breeding bees successfully, as in all other orders of insects, consists in observing their natural conditions as close as possible. Everything of an artificial nature tends to create disease and failure. Spare your cost from patent hives, Italian queens; and procure the works of J. B. Minor, M. Quinby, L. L. Langstroth and the Hubers.

New Orleans, La.

Honey Dew and Where it Comes From.

The honey bees are at the present time very busy engaged in gathering honey from the leaves and boughs of the cotton-wood trees in and about Sacramento. The casual observer may have noticed that the leaves of these trees have an unusually glossy appearance just now, and seem to retain the dew of the preceding night much later in the day than the leaves of other trees adjoining them. This is the honey dew season of these trees, and the bees are making the most of it. With this fact the matter is dismissed by the general observer, and nothing more is thought of it. A little closer examination reveals the fact that the bees are not the only insects at work on these leaves and boughs, and that the material which gives them a glossy appearance, instead of being evenly distributed over the surface of the leaves, is found in a large number of little specks. A microscope being brought into requisition discloses the fact that almost every leaf, and especially the new and tender ones, is a pasture upon which are feeding great numbers of insects of many sizes, forms and colors, and that the spots or specks on the leaves are the excrescences of these insects. These excrescences form the real honey dew that attracts the honey bees and upon which they feed.

This is undoubtedly the general source of honey dew, on all trees and shrubs in the early part of the season. These little insects, often so small as not to be distinguishable with the naked eye, feed upon the leaves and tender shoots, converting their sap into a thick sugary substance, which they exude, and which during the day dries up and adheres to whatever surface it is deposited upon, but when the evening comes and the air cools and parts with a portion of its dampness, this dampness softens the sugary substance so that it drops to the ground, covers the grass and soil with what is generally known as honey dew. While this is going on the bees are very early risers, and as soon as it is light may be heard in the morning gathering honey while in a fluid condition. The honey gathered in this way partakes more, or less of the nature of the tree or shrub from which it is made. That made from the cottonwood is of a dark color and a pungent taste, and not much valued as honey.

There is also, especially in dry seasons, often a great deal of this honey dew in the fall. In this part of the state the common scrub oak yields more than any other tree. We are not now able to state whether this is also the work of an insect. If it is so, it is of an insect too small to be seen with the naked eye, and we have never tested the question with a glass. The honey gathered from the oak is much lighter colored and of better quality than that from the cottonwood.—*Sacramento Union.*

How to Lodge a Swarm.

In the account which was given of a beginner's early experience, and the unsuccessful attempts that were made by himself and his friend to secure a swarm, we promised to notice some errors that had been committed. Several might be mentioned, but we shall advert to those only that were the immediate causes of failure, and led to the repeated migration of the housed colony. They may be reduced to two, the beginner being guilty of one, and the old apiarian of another.

The mistake of the former, to say the least of it, was the more stupid. It consisted in turning the skep, the moment it received the swarm, over to its natural position, without first covering it with a board to prevent the bees falling out. The error of the latter lay in being too hurried: and, as this is a fault of the gravest character, causing much unnecessary labor and sometimes loss, it will be proper to give it some consideration: for what happens when a hive is quickly inverted after a swarm is put into it? Do not the bees just fall down in a mass upon the board? And if the entrance has been left open, as is generally the case, will not the pressure of the fallen bees against the unresisting point cause an outward current which may be followed by a general rush of the whole community? A movement once begun is not easily stayed, and prevention is always better than cure. It is not the part of wisdom to run risks that may be avoided.

The reason why a newly-lodged swarm tumbles out when the hive or skep is immediately turned over, is just because the bees have not been allowed sufficient time to take hold of the sides of the interior and of each other. If a footing has not been obtained, they cannot in their massed state prevent themselves from falling down, and rolling out like grain at every opening. Consequently, an inversion ought never to be made until after the lapse of several seconds, and when making it, care should be taken to do it slowly.

Operators are often in an unreasonable hurry to get the skep placed rightly upon the board, but it is of far greater importance to get the board placed rightly upon the skep, and keep the position for a little while unaltered. When a swarm is shaken or struck down into the crown of a hive, the bees are usually disposed to rise and take wing without loss of time. They spread themselves out and take the appearance of a thick lining all round the inside, and if in this condition the hive is gently turned over, scarcely any bees will fall down, or make an attempt to escape.

We wish the tyro in bee-keeping, therefore, after he had housed his swarm, to remember that anything approaching to roughness or haste in restoring the domicile containing it to its proper position must be carefully avoided. If this caution is neglected, the result may be, as has often happened, a case of bees lodged, but not of bees cured.

In our early days, when no assistant was at hand, we used to place three stones in the form of a triangle, or make a hollow by shovelling out some earth with a spade, for the purpose of keeping the skep steady, and preventing its toppling over after the swarm was put into it. This allowed the free use of both hands for properly adjusting the board and sweeping aside any bees that were in danger of being crushed. Then, when all was right, we placed one hand upon the board to keep it in its place, and put the other under the crown, and with the entrance uppermost made the required inversion.—*English Agricultural Gazette.*

Candied vs. Liquid Honey.

Mr. Editor:—At the time I wrote the article that Mr. Dadant refers to, in June No., page 136, on the above subject, my honey had not candied, and at the same time, I know it was *absolutely pure* and not heated but put up in the way I there described. (See March No., page 61.) I will now say to friend Dadant that since then it has candied as thick as lard; so I now believe he is right. I will here add that it was very cold until nearly May 1st, and you all know that it was a very severe winter; hence my surprise that my honey had not candied at the time I wrote that article, on the first of February. Let all who do not believe Dadant is right send along the proof.

We ought to have a law prohibiting the adulteration of honey, if not, those who produce the pure article will soon find no sale for it. I wrote to a friend at Louisville last week to ascertian the prospect for the sale of honey in his locality, and received the following answer:—"The honey market is remarkably dull and prices low; so much of the Chicago stuff on the market.

Would like to say a word in reply to other correspondents, but have no time at present, this being a very busy season with me.

R. M. Argo.

Lowell, Ky.

For the American Bee Journal.

Reply to Mr. Root.

Mr. Editor: I must say that I was very sorry on receiving the May No. of the American Bee Journal, to find Mr. Root's testimonial among the list published, and it will be a sufficient apology to the readers of the Journal, as well as the vindication of my own honor when I say that I have been absent from Illinois for two years, and left the business and all papers in other hands. I know nothing of the plans for advertising this spring, but suppose when they decide to publish testimonials, Mr. Root's being among them, and considered a truthful one, by them, went in with the others. I have as good testimonials as any published, received within a year or two, and from those experienced in the use

of different extractors. I have no doubt our machine would tire one, in running it all day, more than a geared one, but in simplicity, strength and durability, we still honestly think, that we are ahead. Gearing to machines is slender and liable to break and wear out, then they are worthless, unless new gearing is obtained.

Mr. Root intimates that part, only, of his testimonial was given. I have a copy, and will give it word for word.

MEDINA, O., Nov. 16, 1871.

Mr. Peabody.

DEAR SIR:—In answer to your inquiry as to how we like your Extractor, would say that they answer the purpose perfectly in our apiary, and that every one which we have sold is giving perfect satisfaction. No instruction at all is necessary in using them. We at first thought them rather high at $15, but after making careful estimates, from our own practical knowledge of mechanical work, we decided that a machine so neatly and durably furnished, could not well be made for less money. A. I. ROOT & Co.

Yours Respectfully,
Denver, Col. J. L. PEABODY.

NOTES AND QUERIES

My bees wintered through and no loss of swarms. Are now out in their summer stands—eight in all, one in the woods. Extracted over 100 lbs. and left lots in the hives. Could extract quite a lot now and not rob them. I am greatly encouraged.

W. W. MOORE.

P. S. I should mention in addition to the extracted honey, I had in box and crocked combs perhaps 75 lbs. more. W. W. M.

We congratulate Mr. Moore upon his success. He is doing well for a beginner, and answering the question so often asked, "Will bees do well in Northwestern Iowa?"

How is the New Idea Hive constructed? B. L. Taylor calls it the Gallup Hive and recommends it for wintering. What do you think of it? WM. HERRING.

Allen, Ind.

The Gallup or New Idea Hive is simply a large hive containing more of the same sized frames as are used in any hive. Some hold 18 frames, some 20, and we have seen them made to hold even 30 frames. Some of these frames can be taken out in the fall and straw or corn-cobs put in the empty space, if left on their summer stands.

We hear reports from others whose bees did not winter as well as Mr. Taylor's in the Gallup hive. We suspect his success was quite as much on account of the condition of his bees in regard to their stores, and when these stores were in the hive, as became of the hive itself. We are certain that all of successful wintering depends on something besides the hive the bees are in. The "New Idea" hive is *not* a double-walled hive.

I have four strong hives of bees, and contemplate dividing now and in case they run short of honey, stimulate, and keep them up by feeding sugar syrup.

My bee-keeping friends here have never divided before white clover blossoms, and cannot inform me whether bees will contract comb from syrup or not. May be it is in the authorities, but I have run through the index of last year's JOURNAL and read Quinby's chapter on artificial swarming, and this point is not touched.

Will I gain anything by proceeding as mentioned? I intend to place syrup in the can, and feed through the hole in the honey board. Is this right? Plum trees are just coming into blossom.

Horicon, Wis. C. B. BILLINGHURST.

Bees will construct comb when fed on sugar syrup, if the temperature of the hive is high enough. Your way of dividing is a good one. Be sure to feed regularly until honey is abundant in something outside the hives.

I have three stands of Italian bees, in Langstroth hives. One of them lost its queen during the winter, and is now doing very poorly, under the management of a fertile worker. What shall I do? There are bees and honey enough, and brood, such as it is? I have Quinby, what is the next best work on bees? STEPHEN HALL.

There is no remedy far a fertile worker that we can recommend, except to break up the colony. We have tried in vain to do anything else. The bees seem usually as well satisfied with the fertile worker as with a queen, and it is difficult to discover which one is the layer in a hive full of workers.

They will kill a queen if introduced and they usually refuse to build queen cells, even if brood is given them. We advise to break it up.

To do this we would take the hive up and carry it some distance away, setting another hive in its place, and in this hive put some combs and brood. The working force will go into that hive and not finding the fertile worker there, will rear a queen. The fertile workers do not leave the hive, and will be in the removed one. After a few days the bees will all be gone from these combs except a few, and you can take the combs away and give them to any hive you choose.

If there is a better way to get rid of fertile workers, we do not know it.

Prevention is easier than cure in this case. We think no hive has a fertile worker until it has been queenless some time. Open and examine often, and as soon as a hive is queenless, provide it a queen, or queen cell, or brood, and you will not be troubled.

How shall I prevent robbing among my bees? What is the best way to feed them? Please name a good method for curing dysentery. I have lost 8 out of 50 stands by this disease. Would you let bees have their frames filled with honey comb to winter on?

SARAH HARPER.

You will find our advice with regard to robbing in "Seasonable Hints." We think dysentery was caused among your bees by their having too much honey in the combs, and too little space empty, for them to cluster in comfortably.

If you had used an Extractor among your fifty hives last fall, you might have saved those that are dead, and had honey enough to pay, over and over again, for the Extractor. We would not advise taking the comb away, only to empty part of it. The dysentery will disappear as pleasant whether and natural honey comes. Feed sugar syrup.

My bees wintered through and no loss of swarms. Are now out on their summer stands—eight in all, one in the woods. Extracted over 100 lbs. and left lots in the hives. Could extract quite a lot now and not rob them. I am greatly encouraged.

W. W. MOORE.

P. S. I should mention in addition to the extracted honey, I had in box and crocked combs perhaps seventy-five lbs. more.

W. W. M.

We congratulate Mr. Moore upon his success. He is doing well for a beginner, and answering the question so often asked, "Will bees do well in Northwestern Iowa?"

A Letter From Italy.

The following letter is from the Editor of *Le Apicoltore*, a monthly bee journal published in Milan, Italy, an advertisement of which may be found in another column:

Associazione Centrale D'Incoraggiamento per L'Apicoltura in Italia, Milan, May 11, 1875.

Thos. G. Newman, Publisher A. B. J.

HONORED SIR:—Your JOURNAL is found exceedingly interesting here, and together with the *Bienenzeitung*, it is considered one of the best journals of bee-culture published. We very often publish in ours extracts from it, endeavoring to instruct our readers in everything which takes place in your country with regard to the culture of bees.

Last year was extremely disastrous for bee-culture, in consequence of our climate's inclemency. The bees were unable to find honey enough in flowers, and the places where there are autumnal flourishings were the only lucky ones. There was great mortality in rustic hives, especially towards spring, but movable comb hives have all or nearly all outlived, and are now swarming and completely filled with honey; so much so that we were obliged to give them more room. Therefore it appears that this year will be an extremely favorable one.

I do not know if you have ever heard of a new publication by our Central Association, *the cromolitographic tables* upon the anatomy and the enemies of bees. This is a beautiful work of thirty tables which cost altogether 20 fr., gotten up with the utmost care. They were very much appreciated at the universal exhibition of Vienna, and at the meeting of German bee-keepers which took place last year at Halle an der Saale. I should be grateful were you to speak of them in your JOURNAL. You can ask Mr. Dadant, of Hamilton, Ill., about them. He is acquainted with them, and he will communicate you his opinion. Meanwhile I have the honor to subscribe myself,

ALFONSO VISCONTI DI SALICETO,

Secretary of the Central Italian Association, and Director of Apicoltore.

Voices from Among the Hives.

G. ILISCH, Hickman, Ky., writes:—"My bees are doing well. I hear of but little loss here during the winter, and swarms are very strong. Poplar and honey locusts are in bloom."

N. P. ALLEN, Smith's Grove, Ky., writes:—When I wrote you the first of April, my bees were gathering honey from the peach and apple blossoms. I had a number of hives in top story, and expected to take a nice lot of fruit-blossom honey. But it turned cold, froze all the blossoms and killed all of our fruit. No honey has been gathered since, except what white clover has furnished, and that is very little. It seems there is no honey in the flowers. It is a gloomy prospect, and I fear many swarms will perish for the want of stores.

H. M. ROOP, Carson City, Mich., writes:—"I wintered 100 stocks in a dry cellar, under my dwelling, without any loss; no dysentery nor signs of any. I housed my bees Nov. 12. Kept the temperature of cellar at 40 to 45 degrees above zero. Set them on summer stands March 29. Combs bright and clean and bees quite cross; the worst sting I ever got was while taking my bees out of the cellar this spring. I also had some buried, and two left out of doors on summer stands, in double walled hives. I lost one of the out-door stocks and one of those that I buried, the rest came out all right, but another polar wave put in an appearance, April 15, which stopped brood rearing in all stocks except those that were strong. I united the weak stocks and kept them all strong enough to rear brood, in spite of cold weather. I now have 80 strong stocks with one set of extra combs for about 50 of them, for extracted honey. The past winter has convinced very many that bees cannot be wintered here with any kind of success.

W. C. PORTER, Albany, Missouri, writes: "There are a good many bees in this locality. This year promises to be a *good* one for honey, where the grasshoppers have not destroyed vegetation."

CHAS. F. MUTH, Cincinnati, O., writes: "We have a peculiar honey season in this part of the country. Fruit and locust blossoms were frost-killed, and white clover has now (June 9th), commenced to make its appearance very sparingly. My bees have eaten up their stores, but as a little honey is shining yet in some of the cells and as my time was occupied rather too much by other business, I have kept from feeding so far. Friend Hill, Mt. Healthy, who has, undoubtedly, the best arranged apiary in the State of Ohio, told me the same of his bees yesterday. He thinks that we are all 'candidates for blasted hope' in this part of the country, as far as honey is concerned."

J. B. RAPP, Owensville, O., writes:— "The past winter and spring have been the most unfavorable seasons for bees that has ever come under my observation. About three-fourths of all the bees in Clermont county have died, the balance are in very poor condition. We had a disastrous frost that destroyed all the blooms of the fruit trees, and nearly all of the small fruits, and the black locust did not bloom either; and to-day I opened two hives and was troubled very much with robber bees. I went into winter quarters with 29 colonies. Some of them very weak, yet I did not lose one of them. I bought, in December, 9 colonies for $50, in box hives, and could not tell much about their condition. I lost 3 of them, the other six I transferred in March, and they are now in splendid condition. I have now, by increase and purchase, 42 colonies. We have had good rains lately and the white clover is looking very promising."

W. B. FREEMAN, Dundee, Ill., writes:— "I commenced about 25 years ago, with two swarms and held my own for about 12 years, when I came across "Quinby's Mysteries of Bee-Keeping," when I thought I could keep bees as well as others. I kept bees from that time to 1872, with very good success, ranging from 40 to 90, and got what honey we could without the extractor. I have always wintered in the cellar under the sitting room. Piled them up sometimes four high and never lost any to speak of. In the fall of 1872, I put 81 swarms in the cellar and took out 79; increased to 95, and put them in the same cellar in 1872, and took 7 light swarms, increased by purchase and otherwise to 30, and put them in the cellar in 1873. I took out three very light swarms, increased to 20, by purchase, and dividing, I put those in the same place, and have now only about one-half pint of bees left."

M. C. HESTER, Charlestown, Ind., writes: "I have just had the first lot of queens hatched from the queen I received from Mrs. Tupper last fall. They are all, without exception, beauties. I never saw a lot of queens, from the same mother, of brighter and more uniform color. She is very prolific, and her drones are also as fine as I could desire. I consider her a jewel. If all imported queens were as perfect as she, there would be discount on them. I only regret that the season is such that I cannot increase my stocks largely and supply them all with queens from her. We have the worst season for bees I have ever known. It seems there is nothing out of which they can make honey. My stocks are nearly all at work. Some of them I still have to find. It appears that even the white clover, of which there is a very scant crop, secretes very little honey. I have not seen a dozen bees on this bloom this season. The April freeze killed all the first bloom, and with it the poplar buds, the bloom of which is our main dependence for honey. The locust also failed to bloom, a thing very unusual. My bees are barely making a living. I don't expect any surplus this season."

BEES.—Sir John Lubbock, M. P., who devotes himself a good deal to entomology, dissents from the general idea in regard to the doings of bees. He claims that they are a selfish lot of insects, and holds that degree of devotion awarded the queen bee is altogether too great. There is great difference in the degree of their intelligence, and great peculiarities with reference to their time of work. He believed bees did hear, though he was never able to make any sound which they were able to recognize. He believed they had a keen sense of smell, and that would account in many cases for the antipathy or otherwise which they are said to have for persons. He found that the warmth or coldness of his body had much to do with their friendliness towards him.

Our New Club Rates.

We will send the AMERICAN BEE JOURNAL and the following periodicals for one year, for the prices named below:

THE AMERICAN BEE JOURNAL and Novice's Gleanings for	$2.25
King's Bee-Keepers' Magazine	3.25
Moon's Bee World	3.25
All four Bee publications	5.00
Swine and Poultry Journal	2.50
The Chicago Weekly Tribune	3.20
The " Weekly Inter-Ocean	3.20
The " Weekly Journal	3.20
The " Weekly Post and Mail	3.20
The Western Rural	3.70
The Young Folks' Monthly	3.00
The Prairie Farmer	3.70
Purdy's Fruit Recorder	2.25

ERRATA.—In Mr. J. P. Moore's article on page 142, June number, the word *not* was erroneously inserted, completely altering the sense. It should have read thus: "I preferred to handle bees out of doors, in bright sunshine, instead of handling in the bee house, as Mr. Coe says he prefers to do, in the May number."

Let every one writing this office make all Postal Orders, Drafts or Checks, payable to THOMAS G. NEWMAN. Address everything of whatever nature to

THOMAS G. NEWMAN,
196 & 198 South Clark St.,
CHICAGO, ILL.

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196 & 198 South Clark St.,
Chicago, Ill.

Single copies of the AMERICAN BEE JOURNAL are worth 20 cents each.

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

Subscribers wishing to change their post-office address, should mention their *old* address, as well as the one to which they wish it changed.

Persons writing to this office should either write their Name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

JOURNALS are forwarded until an explicit order is received by the publisher for their discontinuance, and until payment of all arrearages is made as required by law.

☞ TO ADVERTISERS.—Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue of the AMERICAN BEE JOURNAL.

☞ Parties desiring either Langstroth's or Quinby's Works on Bee-Keeping can get them at this office; but, as the late Congress has seen fit to double the rate of Postage formerly paid—those ordering should enclose twenty cents each for postage.

GERMAN BEE STING CURE.—A drop or two will remove all trace and effect of a sting in a very few minutes. It costs $1.00 per bottle, but one bottle will last a life time. It is free from all poison, and may be successfully used for all insect bites.—Can be sent only by Express.

☞ For sale at this Office.

☞ Publisher's Notice. ☜

Finding it to be absolutely essential that we should give our personal attention to the Chicago office, and there superintend the rapidly increasing business of our general Publishing House, we have arranged our matters with reference to this change, which takes place *at once*.

Our son takes the general management of the Iowa office, with all its details of practical work, leaving the way clear for the change above referred to.

Hereafter, in order to secure the prompt attention of the publisher, let all communications and remittances, as well as *all* matters pertaining to business connected with the AMERICAN BEE JOURNAL, be addressed as follows:

THOMAS G. NEWMAN,
196 & 198 South Clark Street,
CHICAGO, ILL.

Our office is located at 196 and 198 South Clark Street, and we shall be happy at all times to receive calls from bee-keepers who may be visiting or passing through the city.

THOMAS G. NEWMAN, *Publisher*.

Honey Markets.

CHICAGO.—Choice white comb honey, 20@25c; fair to good, 22@25c. Extracted, choice white, 12@14c; fair to good, 10@12c; strained, 8@10c.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@10c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexian, 90@95 ℔ gal.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@25c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 14c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main st.

Choice white comb, 22@25c; Extracted, 12@14c; Strained, 6@9c.

SAN FRANCISCO. — Quotations from Stearns and Smith, 423 Front st.

☞ Strained Southern Coast, at 7@10c; Comb, 12@20c; the latter figure for San Deigo, in Harbison frames.

☞ We have no change to note in prices, will have new honey next month from the Southern Coast. The season will be very will make the production fully up to last short, but the increased number of bees season. STEARNS & SMITH.

Secure a Choice Queen.

We have now renewed our offer to send a choice tested Italian queen as a premium to any one who will send us four subscribers to THE AMERICAN BEE JOURNAL with $8.00.

This premium, which gives a $5.00 queen for four subscribers, will pay any one for taking some trouble to extend the circulation of the Journal. Premium queens will in every case be warranted.

☞By an advertisement in this issue of the AMERICAN BEE JOURNAL, it will be noticed that A. Kernberger, has succeeded to the business of Baumeister & Co., honey dealers in Chicago.

THE MEDLEY.—From A. I. Root & Co., we have received one of their beautiful collections of the friends of the honey-bee, called *The Medley*. Its size is 10x14 inches and contains some 150 photographs with names attached. In the centre are the likenesses of Mr. Langstroth and Mr. Quinby, surrounded by all the lesser luminaries. We believe that Mr. Root sells them at $1.00 each, and they are well worth it.

☞We acknowlege a copy of the beautiful engraving of Mr. M. Quinby, from J. H. Nellis & Bro., Canajoharrie, New York. It is advertised in another column. Every bee-keeper should have one. Mr. Q. was one of the most reliable writers on apiculture in this century.

☞We lately had occasion to call at Mr. C. O. Perrine's honey house, and noticed the apparent large increase in his business during the past six months. He has added several rooms to his honey store house, until he now occupies fourteen thousand square feet of flooring, and has handled $30,000 worth of honey in the past year. We are glad to note this, as Mr. P. was almost ruined by the great fire of 1871.

TO WHOM IT MAY CONCERN.—Mrs. Tupper has received at different times through this office, in the years of 1873-4, imported bees and queens from Italy, to the care of the United States Express Co., at New York, and they have come through in apparent good order. W. H. QUICK,
Des Moines. Div. Supt.

☞We have received from J. F. Erwin, a guide for a straight comb, which is a perfect thing. Nothing more need be attempted in this line; the end is gained, and by the use of this, combs may always be secured straight. We understand that the device is patented. This is as it should be. How cheaply it can be afforded, or, indeed, how it is made, we have no idea, but if Mr. Ervin expects to introduce his guide, he will give us particulars in an advertisement in the JOURNAL.

COME SOUTH!

An Apiary in New Orleans for Sale.

125 COLONIES Italian (two imported) and Hybrid Bees for sale, in frame hives; 1 Extractor, 7 Vols. American Bee Journal, nucleus hives, etc., etc., at a bargain. In view of profits of early queen raising and honey resources for home, Northern and Western markets, this affords a good opportunity for some enterprising man to make a comfortable livelihood with less than $500 capital. Address
JNO. J. RIVERA, New Orleans, La.

ITALIAN BEES FOR SALE!

I HAVE EIGHT OR TEN STOCKS of pure Italian Bees for sale, cheap. Nearly all in Langstroth Hives; the others in Dirgou's. All in good order. Address
EDWARD MANGOLD,
233 Sixth St.,
Care Math. Mangold. Cincinnati, O.
july1m

A. KERNBERGER,

(Successor to Baumeister & Co.,)
WHOLESALE AND RETAIL
DEALER IN HONEY
AND BEESWAX,
230 West Randolf St.,
CHICAGO.

L'Apicoltore, Giornale dell'*Associazione Centrale d'incoraggiamento per l'Apicoltura in Italia*, pubblicato per cura della Presidenza dell'Associazione, fondato nell'anno 1868; esce n fascicoli mensili di 32 pagine, con illustrazioni e copertina, il prezzo di abbonamento annuo pel Regno e Canton Ticino è di L. **5** anticipate.—Austria-Ungheria, Svizzera, Germania, Francia: L **6**. — Spagna, Inghilterra, Russia, America L. **7**. — Un numero separato L. **1**. Si spediscono gli arretrati a qualunque momento dell'anno.

Per le annate arretrate L. **4** ciascun volume, quando vengano acquistati in numero di tre almeno.

Dirigere l'importo con vaglia postale al Cassiere dell' Associazione Centrale: Conte CARLO BORROMEO, MILANO *Via Alessandro Manzoni, N.* 41.

Honey Extractors.

Not being quite satisfied with the frame and style of honey extractors, heretofore offered for sale, I have invented for my own use, a machine, which, after two years of trial, satisfies me in every respect. I have made a few for my bee-keeping neighbors, and they are so well pleased with them, that I am induced to offer them for sale. My extractor is an open side, low honey receptacle and geared machine. A single iron rod stands in the center, and around this rod the combs revolve. It is all of metal, well made runs very light, and is strong and durable.

I would refer by permission to Mr. T. F. Bingham, of Abronia, Michigan.

Of those who are using them I would name: F. M. Shirley, of Mill Grove, Mich.; Geo. Sherman, Manlius, Mich.; A. L. Weeks, Allegan, Mich.; and Thomas Burk, Saline, Mich. Price, $14.00. Address
JULIUS TOMLINSON,
Allegan, Mich.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, AUGUST, 1875. No. 8.

Seasonable Hints.

In August, colonies of bees that have been kept strong through the season of white clover and linn blooming may safely be divided. In our experience, large colonies with fifteen or sixteen combs do not winter as well as those containing eight or nine. If you want more bees, divide your colonies judiciously, by any of the ways so often given in the JOURNAL, and you may depend on having them build up into good strong colonies, in any location where buckwheat is raised, or where smart weed and golden rod are found.

For most parts of the West, honey, in the fall, is abundant, nine years out of ten, and if an increase of bees is preferred to surplus honey, there is no better time to divide than now. I need not say that all who have a surplus of queens on hand will make a great gain by giving every new colony a queen.

One correspondent writes: "Last year I had eighteen colonies, in large hives, of eighteen frames each. I had them full of bees when linn came into bloom, and it was wonderful to see how fast the honey was stored. I extracted it twice a week (I have no doubt I might have done it oftener), and secured an average of two hundred pounds to a hive; yet, when the linn went out, the hives were all full of bees and honey. I divided ten of them, the 8th of August, giving each hive nine frames each, full of comb and some brood, but very little honey. They all did well and by last of September I extracted an average of sixty-two pounds each of golden rod honey, with some buckwheat All of these twenty colonies (nine frames each) wintered perfectly, but not one of the eight large ones that I did not divide came through the winter well. I am not able to tell why; but after this give me large colonies to get great yields of honey from, early in the season — but smaller ones to winter well."

We agree with our correspondent in this matter.

Be sure, in this month, that you have a fertile queen in every hive, and also that she has room to deposit eggs. In this month she may be so crowded for room as to almost cease laying, and the result of this will be that your colonies have too few young bees for safe wintering.

This is a good time to introduce Italian queens to black bees. Colonies to which such queens are given now will be mostly Italians by winter, and from these queens you can rear others in October.

Bees are, as a rule, too much neglected in the latter part of the season; it never pays better to be sure they are in good order than in the latter part of the Summer. It is now that the foundation must be laid for successful wintering. Much honey is often stored by bees in this and the next two months, and this year we look for a good honey yield in the fall. The rains have made weedy corn fields inevitable—and from them we get good quantities of fair honey.

Do not take it for granted that the bees will do little more and leave them with their hives full to hang about idle.

A man complained to me last August that his bees were doing nothing, and on examination we found every cell full of honey—not an inch of room where the bees could store anything. We used the extracts on a few combs and gave more room in supers and he then obtained more honey than he had done all the season before.

Don't expect your bees to do the managing. They have no power to put on boxes or to empty the comb. Give them every facility for their work and if there is any honey they will find it and store it.

Officious Meddlesomeness!

"It is an honor for a man to cease from strife; but every fool will be *meddling*."—Prov. XX. 3.

Whether from malice aforethought, officious intermeddling, or inexcusable blundering, it matters not; but some idiotic wise-acre has imposed upon the *Register*, published at Des Moines, Iowa, the residence of Mrs. E. S. Tupper, by getting the following paragraph inserted in its columns:

"The name of Mrs. E. S. Tupper does not appear any more as either editor or correspondent of the AMERICAN BEE JOURNAL."

And all through the state, the diminutive political luminaries that revolve around the *Register*, as reflectors of its political light, promptly copied the item, without caring to inquire whether it was a malicious statement, calculated to injure the party named, or not.

Mrs. Tupper has been engaged as one of the editors of THE AMERICAN BEE JOURNAL during the past year, and is still acting in that capacity. Quite a number of articles from her pen appear in this issue, as all observing persons will readily perceive.

Since THE AMERICAN BEE JOURNAL came into our hands, as publisher, we have engaged something like a score of eminent apiarians for editorial and other work on its pages, many of whom are as modest and unassuming as they are practical and scientific, and do not wish us to parade their names as editors or regular correspondents—thinking that the dazzling glory surrounding the scarlet tripod of the old and reliable AMERICAN BEE JOURNAL may abstract their attention from their private business, or mix it up in some unpleasant way with the JOURNAL.

Every one knows that there are many who delight in picking a quarrel with editors to serve selfish purposes, and often either the journal they edit, or the business they follow, suffer from such officious interference of selfish and meddlesome persons.

To avoid all this, we now decide to have the editorial columns of THE AMERICAN BEE JOURNAL impersonal. This plan has been for years adopted by nearly all the first-class publications of the world. Who knows the name of the writer of any article in the London *Times* or any of the great metropolitan sheets of this country? The articles themselves are taken upon their merits, and the paper in which they appear is alone responsible for their sentiments.

In future, as in the past, we shall procure mature brain productions for the editorial columns of THE AMERICAN BEE JOURNAL without reference to cost, and thus serve our patrons with the best the world affords in the line of apicultural research and experience.

Wise-acre correspondents of country papers are hereby cautioned against foolish remarks concerning THE AMERICAN BEE JOURNAL. If they desire to make personal mention of it, they may truthfully say that it stands without a successful rival in the wide world; that it circulates in every state and territory of the Union, in all the Canadas, Great Britain, and the continental countries of Europe, as well as South America and Australia; that its editors and correspondents comprise scientific and practical apiarians residing in almost every clime under heaven, and number many hundreds, while its students and votaries swell that number to many thousands.

THOMAS G. NEWMAN, *Publisher*.

Bee Enemies.

MARSHFIELD, MO., June 30, 1875.

MRS. TUPPER: Enclosed find a *fly* which kills bees. Some of the citizens call it *Fly Catcher;* others call it *Snake Feeder*. I don't know what it is, but I know it catches bees and kills them, and send it to you with the hope that you can inform me what it is and how to destroy it. There are many of its kind in this part of the state, and unless I find some more successful mode of destroying it than I have yet, it will greatly hinder my increase of bees.

J. STUART.

We referred Mr. Stuart's letter and specimen to Professor C. E. Bessey, Professor of Botany at the State Agricultural College, at Ames, Iowa. The following is his reply:

STATE AGRICULTURAL COLLEGE, }
Ames, Iowa, July 14, 1875. }

MRS. TUPPER—*Dear Madam:* The insect referred to by Mr. Stuart is what is known as the Bee Killer, a species of fly of the genus *Asilas*.

It has frequently proved very destructive to bees in the west, and I have no doubt that your correspondent is making a just complaint.

Mr. Riley testifies to having seen this insect at work in Shaw's Gardens in St. Louis. He says "they capture the bee on the wing, pouncing upon it with lightning like rapidity; then grasping it securely with their forelegs they alight upon some plant or even upon the ground, and rapidly suck out the inside of the bee with their stout and powerful proboscis, leaving the empty shell when they get through." [1*st Rept. p.* 168.]

One bee grower testifies to having found the remains of *one hundred and forty-one* bees, which had fallen victims to this enemy *in one single day.* [*Idem. loc. sit.*]

It *would pay* to set a boy to work catching these Bee Killers. This can easily be done by waiting until they alight and then clapping a net over them.

I shall speak a good word for the King Bird, or Bee Bird right here, for while I do not recollect ever to have seen it devouring the Bee Killer, yet from its known insectivorous habits, I have no doubt it will do its share in keeping this enemy in check.

It would be well to suggest to some of the bee keepers who live in the districts infested by Bee Killers that they watch carefully to determine whether or not any birds, and especially Bee Birds, destroy them. C. E. BESSEY.

Milkweed Asclepias.

The Rev. E. Lewis, Frankfort, Marshall county, Kansas, sent us three mutilated bees, with their enemies hanging to them. He says: "They are from a very strong young hybrid hive. I find many of the working bees with more or less of these indescribable pests hanging to their feet. Some are dying in the hive and are being dragged out by their fellows, while others are toiling with their clogs on their feet. Will you please examine these subjects and inform me through the JOURNAL what these pests are, and what I shall do to get rid of them.

I came here last April, from Douglas County, in this State, bringing one Italian and five hybrid stands with me; now I have three Italians and ten hybrids; all were doing well until this scourge appeared."

We sent them to Prof. C. E. Bessey, Professor of Botany at the State Agricultural College at Ames, Iowa, for examination, and received the following reply:

STATE AGRICULTURAL COLLEGE, }
Ames, Iowa, July 15, 1875. }

MRS. TUPPER—*Dear Madam:* The enemies referred to by your correspondent are the pollen masses of the milkweed, (*Asclepias*) and probably those of the large purple species. These little masses belong to the flower, and are possessed of sticky pads by which they adhere to the legs of the bees, wasps, and other insects which visit them.

The only thing to do to obviate the difficulty is to mow down the milkweeds before they come into blooming.

C. E. BESSEY.

How to Do It.

In order to assist our friends in procuring new subscribers, we will send specimen copies to those that they intend to call upon, if they will send us their names and addresses. It will take but a little time to get parties to subscribe when they see our journal. There are thousands of bee-keepers all over the country who take no bee journal, and consequently are uninformed concerning scientific bee-keeping. These should all be solicited to take THE AMERICAN BEE JOURNAL, and the thousands who now read and prize the JOURNAL can easily reach them. Will they not do it? Every one who reads this, is specially solicited to act as an agent, and present the claims of THE AMERICAN BEE JOURNAL. We feel assured that they will do it. A few hours time from each, devoted to the interests of THE JOURNAL will add thousands to our list.

CORRECTION.—In noticing the business of C. O. Perrine, of Chicago, in our last issue, it was stated that he had handled $30,000 worth of honey the past year. The facts are he has sold of Maple syrup and honey—the two specialties he deals in—the past year about $150,000 worth. Where the $30,000 comes in—which is the best part of it—he has that much now clear after paying all his fire losses, dollar for dollar, and every dollar he owes.

What seems queer to us is that if he is selling bogus honey, how he can double and treble his trade every year, and extend it all over the United States, north, south, east and west.

We noticed that he was getting a very large share of his honey from California, and was making arrangements for a very heavy supply from there this year, having an agent traveling there in his interest, as he has one in Canada buying Canada maple sugar for his maple syrup trade, of which he is calculating to make 100,000 gallons this year. He is the pioneer distributing agent of this choice sweet, as he so long was of honey.

☞ A letter from our worthy co-laborer, the Rev. W. F. Clarke, informs us that he is hard at work as the agricultural editor of *The Weekly Liberal*, a large and handsome paper published at Toronto, Ontario, and though his time has been largely occupied of late with duties connected with that paper, he hopes to be able soon to send us more articles for THE AMERICAN BEE JOURNAL.

THE wheat crop of Europe is almost an entire failure, and the price of wheat is rapidly advancing. The wheat in the "Great West" will again command good prices. While Great Britain and all Europe will be the sufferers, America will be greatly benefited. It may be we shall hear no more of hard times now, in the West at least.

ERRATA. — In C. F. Muth's article, June number, page 136, third line from the end of the article, for mixing, read "*feeding* a few barrels of coffee sugar."

We can supply no more full Vols. for this year, and hereafter shall commence all new subscriptions with the July No.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the ten volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents for, to complete them. Those who wish them, should write us at once for price.

We have several single volumes (complete), which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.00 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

A CHOICE OF SIX VOLUMES FOR $5.—Having a few back volumes complete, and some lacking only one or two numbers each, we will give the purchaser the choice of six of such volumes for $5.00, until they are disposed of. As only a few can be supplied, those who wish to avail themselves of this offer should send for them *at once*.

☞ It will be a source of gratification to us if all those in arrears for THE AMERICAN BEE JOURNAL will settle the same as soon as possible. Our increasing circulation vastly increases our regular monthly expenses for paper and printing. "A word to the wise is sufficient."

Correspondence.

For the American Bee Journal.

Chips from Sweet Home.

It has been some time since you have received any chips from us, but our only excuse is "I've been very busy." Last fall I put in my cellar 100 hives and had 55 to start with this spring. I have now increased to 85—July 1.

When we had black bees, we seldom or never found two queens, (or better say Mother bees) in one hive; but since we have introduced the Italians it is quite a common occurrence to find the Mother and her unfertile daughter and occasionally two fertile Mother bees occupying one hive. We make good use of such extra Mothers by dividing.

Our Observation Hive is doing finely in the sitting room,—the bees passing to and from by an entrance through the wall. I wish no inquiries by mail how to make; will therefore here give a few general directions.

The size and shape will depend upon the frame you use. Make the bottom piece enough longer than the frame, so as to pass through the wall, and in this bore an entrance hole; have two upright pieces and nail them to the bottom piece, on the sides of the top ends nail two strips, rabbet out these pieces on both sides for glass to fit in, so that the glass will be 1¾ inches apart; also have ⅜ inches space at bottom, sides and top of frame. Mortise a place in each upright for the projecting ends of frames, lay a piece on the top so as to fit on the glass and end-pieces. It is best to bore a hole in the top piece, for feeding, etc. If we wish to observe the rearing of Mother cells we would put in a comb of brood in all stages, with all the adhering bees; then the rearing of queens may be seen, and if two or more should cut out at or near the same time, a royal combat may be seen—otherwise the first queen will destroy the others by cutting an opening in their sides and then sting them.

In mine I have seen all the operations of the once mysterious hive except swarming, and now I have a laying Mother in it, and they are getting very crowded and soon I expect to see the above. It is well to keep it darkened the first two or three days, and covered when cool.

Up to date we have had a very cold spring, except about 20 days, and during this warm weather there has been considerable rain. Bees have only stored enough for brood raising, but we have white clover still in bloom, basswood, 15 acres of buckwheat, and our full range, (Mississippi bottom) still to come.

To those buying Honey Slingers, I would say buy none but stationary cans, and have as little revolve as possible.

No amount of freezing will destroy the moth eggs, as we have frequently tested.

I have been using for years two sizes of Frames—the Thomas 12x15 and the Langstroth 8⅛x 16⅜, and find since having many combs to save from the moth that the former is destroyed the worst by worms.

I got a Universal Feeder made, 2 feet deep and 18 inches in diameter. It is made of heavy tin and copper bottomed; the top is perforated with small holes, 15 to the inch or 225 to the square inch. I find the holes are too large or too many, but by covering the inside with muslin it answers the purpose well for a stimulating feeder; i. e., I feed about ½ pound to each hive per day, when they are not gathering honey. I also use this can for melting beeswax as well as boiling the sugar I make into syrup for feeding. When I feed the bees I invert it over a washtub, so that if it leaks any it may be saved. I find it is the most economical feeder in time and feed, and prevents robbing; but a feeder for each hive tends to it.

It will be remembered by the readers of this journal that I made Dadant & Son a visit last season and spent 4 days in their apiary. Since then I have received several letters asking me about their honesty and reliability. I would say here for all, that I saw them putting up bees to send off, always being particular to see if they would fill the bill. Of their imported, as well as their home-raised Queens they keep a register on a small black-board attached to each hive. They cannot give all best Queens, or all crowded stocks. Those wishing an extra Queen or a full hive may depend upon getting such by enclosing an *extra* dollar. I have nad Queens from them and find them to be pure, prolific, and of quiet dispositions. One I now have and am breeding from I think is as good a Mother as I ever had. The Queens I have raised from her are dark, such being the color of most of my best Queens. I have had a few light golden colored that were good; but generally the dark leather colored have given me the best satisfaction.

After over a year's trial we feel proud of our slates, some of which stood out on the hives all winter, and this spring the writing was very legible. They are made by cutting common school slates in pieces of 2½x3 inches and by boring a hole in the middle of one end; they are hung on the right hand side of the hive (facing it). In the right hand upper corner I put the year of Queen's birth, so that her age is readily told; in the left hand upper corner I put H. Q. (Hybrid Queen), or I. Q (Italian Queen), as the case may be; then

the condition of hive and date of the last opening. For example: June 2, O. K. or Y. Q. (Young Queen) or Q. out, (Queen out of cell when I don't see her) or Y. Q. eggs, etc. On the outside of slate I mark anything that requires attention; for instance, July 8, Q. cells, etc.

Yours for a sweet living,

D. D. PALMER.

Eliza, Mercer Co., Ill.

For the American Bee Journal.

California.

DEAR BEE JOURNAL: In my last I promised to tell the "bee men" something of Southern California. First, then, as to

CLIMATE.

I do not suppose that there is a better climate on earth than that of Southern California, especially that portion west of the mountains. Such is a large portion of Los Angelos county, it being a beautiful valley, about twenty miles wide and seventy-five miles long, with a slope of about twelve feet to the mile, from the mountains to the beach. This valley, being west of the mountains, is free from the bleak winds of the desert, and the cold winds from the north, with a regular sea breeze every day, rendering the climate more even than that of Spain, France or Italy; the mercury seldom going above eighty degrees, and rarely below forty degrees. Near the coast it is cooler; but as you approach the mountains, the climate grows warmer, at the rate of about one degree per mile. Near the coast it is too damp and cool for consumptives—but on the west side of the mountain, at an altitude of 1,500 or 2,000 feet, you are above the fogs and dampness—and the climate is *just splendid*. There is never any frost at this altitude, on the west side of the mountains—and here is where the bees do so well. In point of

SOIL,

this valley is equal to any portion of the United States. The soil is made by deposits from the mountains, and is inexhaustible. There is, however, only a small portion of it that is susceptible of cultivation without irrigation; this is supplied by water from the mountains, and by artesian wells. These can be had at a cost ranging from $125 to $500. This seems almost incredible to an eastern man, but such is the fact. Many poor farmers, just starting, have their artesian wells, giving an abundant flow, for irrigating their quarter section of land. As to

FRUIT,

there is no end to it here. Almost every variety of semi-tropical fruits grows to perfection here; and the flavor of all kinds of fruits is especially excellent, on the high "mesa" lands. Peaches are never a failure; apricots, nectarines, plums, pears, etc., etc., in endless varieties, strawberries the year round, while tomato vines bear continuously, for five or six years. Vegetables without end, and the grape to perfection. Raisins made by the ton, simply by pulling the grapes from the vine and spreading them on the ground to dry.

This valley land is especially adapted to the cultivation and growth of the Alfalfa, or Chili clover, which will feed from four to six cows per acre, the year round, producing a large yield of good milk and butter.

BEES

are also kept in the valley; but the quality of honey is very indifferent, and consequently it is not considered very profitable. Yet bees will increase equally as fast in the valley as on the mountains. The most desirable locality for bees is directly up the side of the mountains, about one mile from the valley, and at an altitude of 1,500 feet, with plenty of sage, sumach, etc., about you, on the mountains. The bees go to the valley first in the spring, and as the season advances, they ascend the mountains, thereby securing a perpetual pasturage.

Bees, *they say*, have not done well this spring and summer, owing to a frost that fell in April. I took charge of

MY APIARY

on the 5th of May. The bees were all in box hives. I proceeded at once to transfer, which I accomplished in about four weeks; took about 5,000 lbs. in transferring; have all of my hives full of comb, and have taken with the extractor, up to the present date, (July 1st) about 4,800 lbs. The season is now in full blast, and will continue so for six or eight weeks longer. I have no fears but I will reach 30,000 lbs. from the 150 hives I started with, beside an increase—after "honey for market" is out—of about 300 per cent.

And now, Mr. Editor and brethren, let me say to you all that I have at last found the "place for bees," and I shall not neglect to improve *my* opportunity. So you had better "look well to *your* laurels."

There are other places here, not yet occupied, which would make good bee ranches. But the better plan is to buy out a "squatter," and bring with you about 100 stands of bees to start with. The bees would cost about $1,000, and the 160 acres—with twenty to forty acres tillable land, and a small shanty—about $500. If any "Bee man" wants such a location, etc., I think I could secure it for him for that amount.

There are many points which I would like to talk upon, but must wait till next time, and still remain,

J. W. SALLIE.

Anaheim, July 1st, '75.

From the Practical Farmer.

Prevention of Swarming.

To prevent hives from swarming, several methods have been advocated.

1. Many persons, supposing that bees swarm only for want of room, aim to prevent it by furnishing abundance of room, either in the main hive or in the surplus honey receptacles. But every experienced bee keeper is aware that stocks will often swarm without occupying the surplus storage room—or after they have partially filled it with comb; and in Mexico, where bees are often kept in flour barrels, I have seen them swarm when the barrels were not near filled with comb. I have repeatedly had swarms from old gums, holding over two bushels, and a few days ago, a swarm issued from a stock of Italian bees, to which over two bushels of storage room for surplus honey had been given—two hives being placed over the old stock, in the method described in plate v., figure 16, of the third edition of my book. The bees had filled the second story, and were busily at work in the third. It is very evident, therefore, that ample storage room cannot always be relied on for preventing swarming.

2. Many devices have been contrived for preventing swarming, by contracting the entrance to the hive, so as to prevent the queen from leaving, while free egress is allowed the workers. At one time I looked upon what I called my non-swarmer, with considerable favor; but longer experience has convinced me that it will not answer. It is true that if the entrance is made exactly five thirty-seconds of an inch high, the queen cannot get out, the bees, after swarming, will return to the hive. But such accuracy of adjustment is difficult to obtain, and the bees are seldom reconciled to the *squeezing* necessary to enter the hive, by which many of them have their pollen rubbed off. The whole colony is also thrown into great excitement every day, when the drones attempt to take their flight; and the entrance must be enlarged daily, early in the morning, or late in the afternoon, to allow the bees to carry out dead drones and imperfect brood, which they have been dragging for hours about the contracted passage.

3. Clipping the wings of the queen to prevent swarming, is an old device, but one which with the ordinary arrangement of hives can never be relied on. A queen without wings feels perfectly competent to accompany the swarm, and will hop off the alighting board and in most cases be lost in the grass. The bees return to the parent stock, to await the development of the young queens, and will then swarm, often three or four times.

4. From some experiments which I have tried this season, I think I can effectually prevent swarming, without in the least interfering with the natural instincts of the bees.

The hives in which swarming is to be prevented should all have their alighting boards resting on a large board placed on the ground, and the wings of the queens should be clipped in a way described on page 223 of my book; so that if she leaves she may easily climb back to the hive, when attracted by the loud hum of her returning colony. She will not be disposed to leave often; and the bees will probably aid her in destroying the maturing queens. Of this, however, I shall be more certain after an enlarged course of observations. If the bees should prevent the destruction of the young queens, and the old one should be killed, then the whole plan will fail. Of this, however, I have little fear. L. L. LANGSTROTH.

Oxford, Ohio.

For the American Bee Journal.

"Coe's Apiary."

In an article by J. P. Moore, page 142, he says: "There are some things in Mr. Coe's article, page 112, that I think would be likely to mislead those who have had no experience with the apiary house." He also says: "I have used a house similar to Mr. Coe's for the past two seasons."

Now, I believe Mr. Moore is sincere in what he says, but having never seen one of my apiaries, or even had a description of one, may he not judge me unfairly? He uses a Faulkner house, and that is the standard by which he judges mine. He is greatly mistaken in saying it is similar to mine.

I spent two days with Mr. Faulkner last August, and carefully examined his apiary houses, (he had them in his yard at home) but failed to find a single feature either in construction or management similar to mine. As to the value of Mr. Faulkner's house, I can only say that Mr. Moore himself likes it very much—"would not be without it."

Mr. Winder, of Cincinnati, on whom I called on my way to see Mr. Faulkner, said he had seen it and liked it very much; and others using the house gave like testimony. When I was there Mr. Faulkner had on hand about ten tons of as fine box honey as I ever saw in any market, not excepting Harbison's or Capt. Hetherington's. He had been offered for it by a merchant of Memphis, Tenn., 29 cents per pound, but was holding it at 35.

As to the value of my invention I have nothing to add to what I said in the May number of the JOURNAL, until the bee keepers of the country give their verdict upon it. I am now engaged in building "Trial Apiaries" in several States and

hope to hear from eight or ten in operation this season.

Every earnest, progressive bee keeper in the country is doing his utmost to forward the best interests of the fraternity. "*Progress*" is the watchword. The man (or the woman) who shall assist in devising means for saving the millions of dollars worth of honey now annually wasted, will be as deserving of grateful remembrance, as he who causes two blades of grass to grow where but one had grown before. J. S. Coe.

Montclair, N. J.

For the American Bee Journal.

Italian Bee Chromos.

I see in the last number of the American Bee Journal that Count Visconti di Saliceto, manager of the *Journal l'Apicoltore* and secretary of the Central Society of Bee Keepers of Italy, asks me to testify concerning the value of the chromos now issued by this society.

In reply I will say that about two years ago, (the work of drawing, painting, etc., has taken about two years) after receiving a specimen plate of their chromos I was so well pleased with it that my first thought was to introduce them among the American bee keepers. Consequently, I wrote to Mr. Clarke, then proprietor of the American Bee Journal, offering him my gratuitous services to negotiate with the Milanese Society, so as to have these chromos given three or more every year as premiums for the Journal. Mr. Clarke accepted my services, but as the Milanese Society had very little profit, if any, on these chromos, the difference between the retail and the wholesale price was so small that it was impossible to give them as premiums, so, to my sorrow, this scheme was abandoned.

These chromos consist in a frontispiece and thirty plates, on copper plate paper, 12x8 inches.

The first plate represents a comb with three kinds of cells.

The second, eggs and grubs.

Third, pupa.

Fourth, queen.

Fifth, worker.

Sixth, drone.

Seventh, head of a queen.

Eighth, head of a worker.

Ninth, head of a drone.

Tenth, composite and small eggs.

Eleventh, wing.

Twelfth, legs.

Thirteenth, mouth.

Fourteenth, digestive organs.

Fifteenth, pulsatory vessel and nervous system.

Sixteenth, air bag, trachea and stigma.

Seventeenth, sting and its appendages, etc.

Eighteenth, organ of the wax.

Nineteenth, salivary glands.

Twentieth, sting of the queen, with ovaries and spermatheca of an impregnated queen.

Twenty-first, genital organs of a virgin queen.

Twenty-second, genital organs of an impregnated queen.

Twenty-third, genital organs of a worker, and of a laying worker.

Twenty-fourth, genital organs of an early emerged drone.

Twenty-fifth, genital organs of an adult drone.

Twenty-sixth, penis upturned after the copulation.

Twenty-seventh, spermatozoid.

Twenty-eighth, transversal section of a queen, showing all the organs in their respective places.

Twenty-ninth, braula cœca, (bee louse).

Thirtieth, moth and its larvæ.

These chromos, made on the microscopic works of Count Gaetano Barbo, works which obtained several premiums in the bee keepers' expositions in France, Germany, Austria and Italy, have been drawn and painted by Mr. Elericy, chosen on account of his ability, by the society of Milan.

I have already received 18 of these plates; the six first sent were lost on their way here: possibly some postmaster's employee has liked them too much to let them arrive here. The twelve which were sent afterwards arrived with a lot of queens, after having been spoiled by salt water; the six following arrived all right.

I have written for another collection, and I wait for it for the work is just completed. The merit of these chromos has not deceived my expectations. All the bee keepers who called here since a few months were anxious to get a collection of them. The price in Italy is 20 francs in gold. It is low if we compare it with their entomological, microscopical and artistical value. But the difficulty is: how to receive them here safely? We cannot get them through the post-office—some might be lost on their way, and the rest may be broken at the corners so as to have their neatness greatly damaged.

A few copies sent by express would cost too much. It would be quite different if we would raise a club. Besides, if the number ordered was one hundred or more we could afford to have a drawing made expressly for us, and the reading on the plates in English language instead of Italian, as it is now.

If some bee keepers want to get these chromos, we can make a list and order them as soon as we have a sufficient number of names.

The price delivered here will be about $6. Send $1 in advance when ordering; this dollar will be refunded if we cannot

meet with sufficient number to pay express charges and duties.

We do not intend to make money with these chromos, but to spread the knowledge of the organs of our interesting insect among the bee keepers.

CH. DADANT.

Hamilton, Ill.

Distance of Bee Pasturage.

Some credit the bees with having an instinct that causes them to fly some distance from the hive before alighting upon flowers in search of honey. The economy of this is in the saving of time that might otherwise be wasted upon neighboring blossoms that had previously been despoiled of their sweets. This may generally be the case, though I have seen them gathering from pasturage a few yards distant from the apiary, and the close proximity of pasturage does not seem to make any particular difference if it is extensive. And, when artificial pasturage must be supplied, it may be an eighth or a fourth of a mile distant without inconveniencing the bees. They have very compact bodies and strong, though delicate looking wings, which render them capable of making long flights in a short space of time, with very little fatigue.

Since the month of May, the bees have been delighting themselves among the fragrant blossoms of the white clover, or "white man's foot," as the Indians call it, for the reason that it seemed to spring up wherever the white man trod the newly-discovered world. This is a valuable forage plant, and belongs to the Trifolium, or clover family, the plants of which are distinguished by compound leaves composed of three leaflets, which are properly called trifoliate leaves. Trifolium refens is universally known as white clover, and in some localities has been styled Dutch clover. It is of especial value to the farmer-bee-keeper, as it affords excellent pasturage for horses and cattle, is also useful in making exhausted land productive, and produces a very light-colored and delicious honey, from May until September.

Trifolium prantense, or red clover, is in some respects superior to the white species, and it is supposed to secrete much more, if not better honey. This has not yet been made available, as the depth and narrowness of the blossom-tubes will not permit of their sweets being gathered by the honey-bees, and they are left to enrich the store of the humble-bees. It has been claimed that the Italian bee possesses a proboscis of sufficient length to gather the honey from red clover blossoms, but this is not generally believed, as no conclusive testimony has yet been given to prove the theory. There has been considerable said about shortening the sting and lengthening the proboscis of the honey-bee by careful and select breeding, and, when it is done, we may expect to place the red clover honey on our tables.

The idea of producing a variety of clover that should combine the best qualities of both the red and white clover, was first conceived in this country, but experiments here resulted in failure. A successful attempt was made in the Province of Alsike, in Sweeden, a number of years ago. It has been claimed by some that it is a distinct variety, while others believe it to be a cross between the red and white clovers, as it possesses some of the qualities of both. On its introduction here, it was received with favor, and has done well in the northern states. It does best in a cool, moist climate, and loamy soil. The many pinkish white blossoms which it bears on each stalk resemble those produced by the white clover, thereby placing its honey within the reach of the honey-bee. Its haying qualities are equal, if not superior to the red clover, and it attains about the same height. In fact, one gentleman has asserted that it has grown to the extreme height of seven feet, though it seldom surpasses 2 or 3 feet in even favorable localities. Its chief recommendation for the northern latitudes is the fact that it is capable of enduring severe winter weather.—*Ella, in Chicago Tribune.*

Translated by Ch. Dadant.

Our Foreign Bee Notes.

NOTES ON BEE CULTURE IN FRANCE.

(CONTINUED.)

Wax candles were first manufactured with linen dipped in hot wax and rolled together. They were afterwards manufactured by hand by rolling a wick on softened wax on a walnut table. Progress, however, soon taught the present way of manufacturing them.

The candles used in great solemnities were richly decorated with magnificent ornaments. Talented painters adorned them with mottoes, with pious sayings, or with the escutcheon of the donor. This custom of ornamenting wax candles had created a special art.

They also ornamented with the family shield the candles that were carried at the funerals of noble defunct persons. We have found many instances of this in our own country.

In all religious ceremonies large quantities of wax were consumed, and the incumbents neglected nothing to procure it. Among the annual revenues of the Bishop of Puy, were 20 pounds of wax. In 1330 the farmers of the domain of Beauregard, had to pay each two pounds of wax annually. In 1632 John de Frettar, sexton of the monastery of Chaise

Dieu, stipulated for an annual rent of six hundred pounds of wax, to be of good merchantable quality, that the other party was to bring to his house yearly on St. John's day.

Another deed, dated July 27, 1668, shows that the monks of the same monastery rented to John Marel for six years the revenues of the work room for the payment of 120 pounds (about $24) to be paid in wax candles of first quality at the rate of 18 sols (cents) per lb.

It was about this time that, for reasons of economy, they introduced in the churches the false candles covered with fine wax.

For a long time wax candles had been exclusively preserved for the use of the church. Tallow candles, even, were quite a luxury. The Duchess of Burgundy never used any others, and in a letter written to her son in 1422 she complained of their high price. Yet these candles were only worth 4 sols 2 deniers (4⅛ cents). The rich families employed oil and did not even leave to the poor the right to use the pine twigs. But comfort and luxury were some day to invade France.

After the Venetians had taught us the speedy bleaching of wax, rich people preferred it to tallow. La Bruyere in his "Caracteres" speaks strongly against this luxury. "Our ancestors," said he, "used not the wax candles, they were for the altar and the Louvre."

Soon the higher classes were no longer the sole consumers of wax candles. This habit soon became customary among the well-to-do people of the small cities. Traveling candle-makers made it a business to melt the old wax and make it into candles, so that each person could have his or her own candles made right at home.

The wax candle died on the day that Chevreuil published his beautiful works on fat substances; when wax and tallow were replaced by stearine, in 1839.

Wax was also employed for ointments, or plasters, of which our grandmothers had the specialty.

Diversely colored wax was in use in chanceries in the middle ages, and our national archives are full of deeds covered with seals printed in wax.

The Romans had employed wax for the pictures of those who were in curule magistracy. In the seventeenth century the fashion was again turned towards this. Louis the Fourteenth had his picture made in wax by the famous Benoit.

Our readers will forgive us if we neglect a number of ways of employing wax. We believe that enough has been said to show its importance.

Although honey has to withstand the competition of sugar, and wax that of stearine, still these products are both well appreciated.

Honey is still employed as saccharine matter in a host of pharmaceutic preparations. It is utilized in the preparation of the gingerbread of Rheims. It enters in the composition of metheglin and of several alcoholic liquors. Lastly it has been advantageously employed in place of barley in the manufacture of beer.

Wax is used in many industries. The joiners and cabinet makers, the painters and the sculptors use large quantities of it. It is also employed in the preparation of some kinds of leather.

Therefore we can see that if bee culture was useful for our ancestors it should not be abandoned now-a-days.

French bee keepers now sell thirteen million of francs of products. But the number of hives could be much larger than it is now. We should therefore encourage the culture of the bee and stimulate it by spreading the best methods of culture.

E. FAURE.

For the American Bee Journal.

The Attic as an Apiary.

I noticed in the AMERICAN BEE JOURNAL, for June, the inquiries of S., Madison, Wis., with the remarks made in answer. Some years since, residing in a hired house with two windows in each end of the attic, four in all, with little use for the attic, I removed the windows and placed a board in each window, darkening the room. I then placed a hive against the board in each window, so that the bees could alight upon the window stool of each window, and enter the hive. The entrance was directly into the hive; each hive had surplus boxes of say 5 lbs. capacity each box—an aggregate capacity of 100 lbs., or more. (It might be constructed to reach 200 lbs. each hive.) I placed a first swarm in each of the four hives. They gave me as good returns as any of my new swarms in the apiary. I only had the opportunity of the trial one season. They filled their hives well for winter, and I should think averaged 40 to 50 lbs. of surplus each.

I think such an attic would make a very good bee house for as many colonies as can be thus accommodated and every farmer might have bees in his attic to advantage, with little trouble. But to have it in a neat surplus box for use is better than to be cut off from the comb when wanted.

What would be the actual expense per pound, of honey, when one colony gives 100 lbs. per annum for ten years, selling at 20 cts. per pound. 1000 lbs. costs $5.00, the price of one colony of bees. That amounts to 5 mills, one-half of one cent per pound. We think that is not very costly honey. Even if they average but

50 lbs. per annum the cost would be but one cent per pound.

I have thought from my experiments thus far that the issue of a swarm from an old colony at the time when the best part of the honey season commences, cuts off one-half to three-fourths of the surplus. If so then a swarm from my colony that gives me 100 lbs. of surplus will cost me from 50 to 75 lbs. of surplus. At 20 cts. per pound, this would be $10.00 to $15.00 per swarm. In estimating the number of colonies when giving annual swarms, why should we stop at nine years? Why not go on to twenty years? then they would amount 1.984,288 colonies, bringing in $9,921,440.00. What an income. But one difficulty meets us at an early start on the road. One field will not long give honey for one colony, another will starve at 5, another at 10, another 30, another 50, another 100. Starvation would overtake them in 3, 4, 6, 7, 8 years,—and then they would die off.

JASPER HAZEN.

Woodstock, Vermont.

The Senses of Bees.

It is rather astonishing that any naturalist should doubt the existence of any of the five senses in bees, which they and many other creatures possess. Francis Huber himself rather doubted that bees possess the sense of hearing. I knew a minister of the gospel and student of nature, who maintained that bees are blind. An English baronet and M. P., has recently delivered a very good lecture to the members of a natural history society on the habits of bees and ants. This lecture has been pretty widely published, and contains the results of some very interesting experiments which he has made to test the truth of what some writers have advanced touching the capacities and senses of bees. So far as his experiments go, although they are not conclusive (and this he admits), bees do not deserve the good character which is so often given them. They lack affection for one another, and their devotion to their queen has been over-colored. They are minus sympathy for suffering companions; have no appreciation of colors, no powers of communicating ideas to each other; and some are more stupid than the rest. These are a few of the convictions obtained by the lecturer from the experiments he made last summer. It is to be hoped that he will repeat his experiments next season, and institute others of a like nature, for bees have many traits of character not yet explained or understood; and there are many secrets in their history difficult to penetrate.

In this letter I propose to take a mere glance at the five senses of the bee—viz., sight, touch, hearing, taste and smelling.

1. *Sight.*—That bees can see distant objects is proved by the fact that they often fly in a straight line to them. That they can see near objects may be observed in their going in and out of their hives, and winding their way through a thicket of trees without touching a twig or a leaf. If bees be taken into a room during the day they fly to the light; and if taken into a dark room and shaken on the floor they will travel towards a lighted candle within eyesight of them. I once saw half of a large swarm or stock of bees run along the ground many yards after the moon. A cartload of hives were placed in my garden one night. One hive was on the point of suffocation; it was placed on the ground and its doors opened. Unfortunately the moon was in front of the hive, and as the bees gushed out of the hive, in a continual stream, they all ran in the direction of the moon. As soon as I discovered the mistake I turned the back of the hive to the moon, and stopped the numerous pilgrims on their march, by placing a large door between them and the attractive satellite. The hive was placed in their midst, the noise of which brought them all home.

If two bees be carried in a room, and one of them finds a way of escape more readily than the other, we should charitably conclude that the escape is owing more to an accident of good luck than to an evidence of greater intelligence.

2. *Touch.*—What sense but touch enables bees in the darkness of their hives and the darkness of night to lay the foundations of their combs at proper distances from one another, to erect cells and combs of exquisite form and beauty with the smallest possible amount of wax? By sense of touch, eggs are set and tended, food is mixed and administered to young bees in portions suited to their age and wants. Is it not by their sense of touch that bees often recognize their queen, and convey ideas or impressions to one another? Is it by sound or touch that a whole swarm is made aware, all but instantaneously, its queen is lost? And while the bees are wild with grief, uttering loud lamentations, they can be as speedily hushed into perfect quiet and contentment by the restoration of their lost queen.

3. *Hearing.*—The lecturer did "not think that bees possessed any powers of hearing. He had shouted, screamed, played on the fiddle, and made other noises, but they took no notice whatever." Bees can both make and hear sounds. They have a language well understood by themselves. In times of activity they are seldom dumb. A single bee can give a note of alarm or a cry of pain, that affects the whole community. With the point of a penknife I once caused a bee to utter a cry of distress, which instantly produced the responsive hush of disturbance

throughout the whole swarm. In a hive of bees there may be heard the sounds of grief, of joy, of peace, of trouble, of starvation and of suffocation. It is the noise of bees in swarming that keeps them within ear-shot of one another; and this noise never wholly subsides till all have clustered in a mass, like a bunch of grapes, on the branch of a tree. If bees were deaf, sounds would be of no avail; but many different instances and occasions could be named, in which sound is a very useful instrument in the economy of a hive of bees.

Bees will follow the sound of their own hive in a dark place, and in daylight, as hounds follow a fox. It were an easy matter to make bees on the floor of a house at night follow the noise of a strong hive from room to room, over the whole house, and even from one end of a garden to the other end.

4. *Taste.*—The sense of taste in bees does not admit of doubt, though we know very little about it. The fact that bees resort to the water of dunghills and the secretions of an insect, does not prove that their sense of taste is imperfect. The saline matter of manure is useful for breeding purposes. If the syrup of sugar be made too weak, bees will not take it. If six dishes of honey be placed on a garden wall beside six of good syrup, the bees take all the honey first, afterwards the syrup. If honey be given to them in a warm state, they generally overload themselves, and cannot fly for some time.

5. *Smell.*—This sense in bees is wonderfully acute. They can smell the nectar of flowers at some distance and go direct to it. We have seen bees on the way to the fields halt over the mouth of an uncorked bottle of sirup in our hands, and drop on to it in an instant. We have seen bees dance around the chimney top, and drop down the chimney to get the honey in the room below, which they had smelled. We have seen honey placed in a dark kind of cellar behind a room 10 yards wide; bees scented this honey, went in by the door, flew across the room, and crawled on the floor of the dark cellar till they reached the honey. The sense of smell in bees is so keen that they can detect the presence of strange bees in their hives, and are greatly offended at the breath and sweat of human beings.

Bees have good memories as well as acute senses. If they be fed one day from a plate placed in a particular spot of a garden they will go back next day or next week to see if any more can be obtained. If weather keeps them at home for weeks they remember the place, and go to it as soon as they leave their hives.

We think that bees are very clever little creatures, and that they have the power of conveying ideas to one another. If one or two robber bees find access to the honey of a weak hive or stock, the community to which the robbers belong generally gets all the honey in a very short time. This is almost invariably the case; one hive getting the whole of the booty before the other hives are aware that booty can be had. If bees have no powers of conveying ideas to their own community, how does it happen that one hive gets all and the rest none? We have frequently resorted (on a larger scale) to the same kinds of experiment that the baronet adopted, but the results and the conclusions were quite the reverse of his. Again: When one hive is robbing another there is, generally speaking, no resistance offered, and the robbers never cease till they have carried every particle of honey to their own hive. If the undefended hive be removed from its stand before all its treasures are gone, and a strong hive be placed where it stood, the first robbers that come now find a resistance too great for them, and the whole of the fraternity of the robbing community are speedily made aware that "their game is up."

In preparation for swarming is there no community of ideas? no internal arrangements made? Twenty or thirty thousand bees are about to emigrate, and leave twenty thousand behind in the mother hive; those that go have to take rations to last three days, and to be ready by twelve o'clock! Is all this mere blind instinct? The question cannot be answered in the affirmative by

A. PETTIGREW.

For the American Bee Journal.

Adulteration of Honey.

Reader, has it not occurred to you that this subject has been already discussed too much? and that the less it is agitated, the better for the bee-keeper? As only one side of this question has been presented, perhaps it will do no harm to say something on the other side.

It seems to me that the parties who make the handling of honey a *specialty*, know better what their patrons desire than beekeepers, and that there is not the least danger of their "cutting their own throats," by selling a mixture that will *ruin their business.* It seems, also, that it is for their interest to sell an article that will give the best possible satisfaction, and that it is about time for honey raisers to give to dealers the credit of a little common sense. Some have *glucose* on the brain, King especially. From a careful investigation, I am satisfied that the Chicago dealers use no glucose in the honey they sell—and that it is not for their interest to use it. There are at least two objections to its use—one is, it *separates* by long standing, from the honey, and the other is, it will *ferment* in hot weather.

I have often seen Perrine's honey on sale on this (Fox) river, and elsewhere, and I know that it gives first-class satisfaction,—far better than the *crude* honey sold by the honey raisers in this or any other county. Whether Perrine mixes anything with his honey or not, I cannot say, but if he does, it is something that improves rather than injures it. That is, his honey is *milder in flavor*, and therefore better relished by the masses. Crude honey, as gathered by the bees, is quite apt to candy — *but does not always* — and when it is in that state, consumers generally dislike it. Besides, it is impossible to convince many that *pure* honey will change to *sugar*. As a rule, Perrine's honey does not solidify, if used within a certain period, and for this reason, consumers like it better, and so do the merchants that handle it. Now, no one can properly censure a dealer who caters to the wishes of his patrons, provided he uses nothing that injures their health. But the discussion of this subject in the strain of the past few months, is creating, and has created considerable prejudice against *liquid* honey, and the producer is the chief sufferer.

As a consequence of this prejudice, the dealer can buy all the liquid honey he wants, at lower prices than before this discussion commenced. But suppose the dealer cannot sell liquid honey, then the producer must peddle it in small lots among his friends and neighbors—those who have confidence in his honesty. In a short time he will find his reputation for honest dealing sadly injured, for crude honey will, generally, candy more or less, and then his best friends will claim that he has *sugared* it! For there is no man on *this* earth that can sell crude honey and escape from this charge—unless we except H. A. King! the party who inaugurated this discussion. Why Mr. King made a *hobby* of this topic at the last National Bee Convention is not apparent, except to the few who have watched his course for the past few years. If we mistake not, it was for the sole purpose of bringing himself once more into *notoriety* and the recurring of a vast amount of advertising, *free of expense*. He knew this would be the result, for the Press, generally, will publish a pretended fraud, or what is novel or ridiculous.

There might have been another object, and that was to injure the business of Mr. Perrine, who has worked diligently for a reputation for the goods he handles, and Mrs. Spaids, who was once the wife of Mr. Perrine, might be at the *bottom* of it. It is well known that she is jealous of Mr. Perrine's prosperity, and that she would gladly use any means, no matter how contemptible, to break him down, and, at the same time, build up the reputation of the honey market of New York City.

St. Charles, Ill. M. M. BALDRIDGE.

For the American Bee Journal.

How About California?

The following letter from a friend who has lately gone to California, I submit to the readers of THE AMERICAN BEE JOURNAL, as they ought to canvass the subject well before attempting a removal to such a distance as the Pacific slope. As I know many bee keepers are contemplating such emigration, I commend this letter to their careful consideration.

H. NESBIT, Cynthiana, Ky.

SAN DIEGO, CAL., June 24, '75.

H. NESBIT, ESQ. Dear Sir: Yours of the 14th at hand, and contents noted. I came here from Kansas in May, to go to bee-keeping, but found I was four months too late to do anything this year, as bees swarm here in March and April, and from that time to September 1st, are making box honey, and but few are for sale, except from October to January.

They had a hard frost here in April, which stopped swarming, and cut the honey crop very short.

Italian queen-raising might pay, but I think it doubtful, as one-fourth are now Italians. You could not find a location, in my judgment, out of reach of blacks or hybrids, as the mountains have many wild bees in them and the bee-men are already located all over the honey region.

Bee-men complain of losing one-third of their queens in fertilizing this year. Do not think that queens will be sold very profitably. This country wants to be seen to be appreciated—it is not at all that fancy paints it. I am very much disappointed and do not think I shall stay, as I left my family East; and if I bring them, they will have to stay here in San Diego, while I go alone up among the mountains, twenty-five to forty miles to the bee-range.

There are no *thriving villages* within a hundred miles from here. This is the *only* village for one hundred miles in *any* direction, and this is as *dead* as can be—always like Sunday in the streets.

Outside of this town there are no churches, and no society you or your daughter would want. Little houses, 15x20 or less, three to six miles apart, with one or two *men* in each, constitute the population, and thus the country is dreary and uninviting. There will be plenty of bees and ranches for sale this fall. Bees in Harbison or Langstroth hives sell at about $10; in box-hives, $3 to $5. Harbison's average, for five years past, is 83 lbs. comb-honey—more than most get. This year they will not get half that. They do not know what *extracted* honey is here. I brought two extractors with me, but as *strained* honey is only five to six cents per pound, they will not give me any work extracting.

If you are determined to come, my advice is, stop at Los Angelos, and go ninety

miles south of the railroad toward San Barnardino.

Land there, good for fruit, etc., is high; but there you can raise something that way, by irrigating, while in this country you can't raise anything but *cactuses* one year in five.

Harbison gives his men $20 a month, the first year; $40 per month, the second year, and an interest the third year. Do not know the interest.

You might buy 100 hives, bees, and ranch, with a shanty, worth $50, for $2,000. I think no one ought to come with less than $3,000, gold, for the first year's work. You might obtain employment—I can't, and dozens of others of us are here doing nothing; cant't get work for our board at anything—though I profess to understand the bee business.

I think this whole business overdrawn. Because last year was a splendid success, they thought to make their fortunes; but this year most are losing money.

G. F. M.

For the American Bee Journal.

What has Become of Gallup?

As I see a good many inquiries as to Gallup's whereabouts, let me give the readers of the AMERICAN BEE JOURNAL some information regarding him. He has left the bee business, and has received the title of "hydropathist." He is performing some remarkable cures, having treated over thirty cases of fever this spring, without the loss of one, and says he never expects to lose any.

I have charge of his bees and will say, for the benefit of your readers, that one of his large twin hives threw off a large swarm, on the 20th of May, full three weeks ahead of any other bees in this vicinity, showing the advantage of giving a queen a chance of spreading herself. He has fifteen of these large hives nearly all remarkably full of bees. Swarming commenced on the 16th of June, but cold rains set in and there was no more swarming Bees do not gather enough to eat now.

I am very much pleased to read the articles on wintering from so many bee keepers. We get much information by exchanging views. I put seventy-two colonies in my cellar, and, after remaining there one hundred and forty days, I took out seventy-two colonies, in good order, and have them yet. I left three of my strongest swarms on their summer stands, covered with quilts and surrounded with sawdust. They are very weak. I will give my plan for wintering, in September or October, as I think it is safe for Northern countries.

SOMETHING SINGULAR.

I had a colony that had been queenless twenty-four days. I cut some brood out of a honey box, and left it on the top of a hive; three days after, I found a queen cell in my queenless colony, with larvæ in it. They sealed it, but I gave them a queen before it hatched. Question: Did they transport the larvæ?

Mr. Gallup received some samples of artificial honeycomb, from some unknown person, which he gave to me to test. I have inserted it in a hive, but as the bees are not making comb now I cannot report. It is a very ingenious piece of work, and promises to be very valuable.

J. W. LINDLEY.

Mitchell, Iowa, June 19, 1875.

For the American Bee Journal.

How a Beginner Succeeds.

My wife subscribed for the AMERICAN BEE JOURNAL about one year ago. I have carefully read each number, as they were received, and have become considerably interested in bee culture. I have constructed eight hives with frames, and am now assisting my wife to get them properly stocked with bees and straight combs. I am greatly delighted with the ease with which bees can be handled when the operator follows the JOURNAL'S instructions, and am astonished to see so much ignorance exist with the common people in this vicinity on the subject of bee culture. I think that time will effect a great change in the minds of the people as regards the profits of bee culture, for we certainly have abundant resources for honey in this section. Bees winter well here on their summer stands, and commence gathering pollen from flowers in February and March. We have trees and plants flowering considerably all through the growing season. Bees are kept by quite a number of the citizens, and generally to little profit, just for want of knowledge such as the AMERICAN BEE JOURNAL would impart if they would subscribe for and read it.

I will give you the names of some of our honey-yielding trees and plants.

Of trees we have poplar, black locust, honey locust, black gum, yellow wood, white thorn, red, and black ham, sugar maple, red maple, wild grape, red, white, and slippery elm. We have also fruit trees of the common sorts of fruit.

Of plants we have white clover, red clover, wild black and raspberry, and a large number of plants, the names of which I do not know. We have a white flowering weed growing in low land, which grows about 4 feet high, and commences flowering about the end of summer and continues until frost. The bees gather honey rapidly from it.

T. E. SHELTON.

Russellville, Ky., June 23, 1875.

For the American Bee Journal.

Prospects, etc., in Tennessee.

I had hoped by this time to be able to report a large yield of honey, but the incessant rains for the last two weeks, and that too, in the very middle of one of our best honey seasons, have materially damaged my prospects in the way of honey.

I commenced in the spring with 66 stocks, quite a number of which were very much reduced on account of the cold weather in April, but I fell back on the doubling up plan again, and from the 66 I made about 42 strong colonies, saving all my queens. From the poplar bloom and honey dew, I took something more than 3,000 lbs., and from the sourwood up to the time the rains set in, I have taken enough to make up a total of 4,808 lbs., with enough in the hives to make at least 5,500 lbs., which I will take as soon as the rains cease. I worked mainly for honey this year, and have had but a small increase in bees, the total number of colonies now, including weak ones, being 107.

Although the rains have cut short the honey crop, I am happy to inform you that the prospect for a large yield of corn in this State was never better; and as our people have been living on half rations a long time, the thought of plenty and to spare will more than compensate me for my short crop of honey.

I have disposed of about 1,500 lbs. at 12½ cents, and now have 8 barrels on hand for sale.

We have two honey crops here. The poplar, which commences May 1st and ends about the 20th. Then the sourwood, which commences about the 25th of June and ends about the 20th of July. So you see if the rains should cease at this date I would yet get a considerable yield from the last mentioned bloom.

Hoping that all your bee keeping subscribers may be able to report large yields of honey, and wishing the old AMERICAN BEE JOURNAL much success, I remain as ever, Your Friend,

J. F. MONTGOMERY.

Lincoln, Tenn., July 14, 1875.

For the American Bee Journal.

Something About Queens.

In my opinion, a pure Italian queen, when impregnated by a pure drone, will produce three banded workers, and under favorable circumstances, will duplicate herself in her queen progeny. If any black blood is infused, the queen progeny will vary in color—some will be dark, some light, and some with rings. Some are short lived, living only a few weeks; some a few months; some one season, and some as long as four or five years, notwithstanding all were raised in the same hive, at the same time. The reason is obvious. Men and animals die old and young, so with bees. In regard to the color of queens, some are darker than others, but will duplicate themselves, if purely mated; some of the dark ones are very prolific, and just as good as any for honey, and increase of stocks. Parties who receive such queens from breeders should not be hasty in concluding they are cheated, for they may be pure. One thing is certain, a person may be easily deceived with dark ones; for a hybrid may be very much like the dark, pure ones. Impurity does not make the light colored or golden beauties, lighter colored. If so, the darker the dark ones, the purer they would be. A queen that has well-defined rings should never be bred from, as her progeny are likely to be impure. Take a queen to rear from that is uniform in color, from the throat to the tip of the abdomen, that produces workers with three well defined yellow bands, and they will generally produce good queens for shipment to customers, and will generally give satisfaction to them. Never take a young queen to rear from, as she may be but short lived. Always select such as I have described, and two years old, in order to secure a hardy, long-lived race of bees.

Much has been said and written upon this subject, and the doctors still differ, and will differ, for all time to come, probably. I simply give my experience. In this, as in everything else, I give no theory that I have not practiced and found good, and in the main, I believe I was right.

There is something else about queens that we all are interested in, (i. e.) introducing them. They can be introduced successfully ninety-nine times in a hundred, if strict attention is paid to certain rules and conditions. My success has been varied. I have lost a good many, and thereby paid for my schooling. A young queen, just emerged from the cell, can be given to any stock of bees at any time after taking away their queen, and they will not kill her. I have given them repeatedly to full stocks, and to nuclei, and never had one killed. The bees will not sting or enclose such a queen.

To introduce a fertile queen, depends much upon the time of the year, the condition of the stock, etc. For the benefit of the inexperienced, I will here state that in August, probably more queens are destroyed than at any other time in the year. Bees are then generally strong in numbers and stores, gathering but little, if any honey, and are so cross, and just in prime fighting order. When in that condition, go to them in a careless way, make no quick motions, though you find fight in them; blow in smoke, and look up

their queen and cage her; place the cage in among brood, where she can get to honey; close up the hive, let her remain twenty-four hours, then take the queen you want to introduce; slip her in the cage, after killing the one in it, let her remain in it some length of time, then, between sundown and dark, open the hive carefully, without jar, and with sweetened water, strongly scented with essence of peppermint, give them a good drenching—the queen too. Don't be afraid of drowning them; put the queen on the combs, close up the hive, and the job is done.

At other seasons they can be introduced without caging; let your stock be deprived of its queen for twenty-four hours, that all the bees may become acquainted with their situation, then take the queen, use the sweetened water and peppermint, as already stated, and they will receive the new queen. Caging is objectionable, a great many are lost in that way. I never cage, except when bees are cross, and gathering but little honey. Believing the inexperienced may be benefitted by my suggestions, I submit for your judgment as to whether it is worth a place in your valuable journal.

Melrose, Va. R. W. HARRISON.

For the American Bee Journal.

The Wonderful Instincts of the Honey Bee.

How great is the instinct of this industrious little insect will be seen by reading this article. Nothing pays better on one's farm, with so little trouble and expense, than the honey bee. Each hive will give a profit of $20 in honey sold at wholesale prices, at no cost for gathering, as bee pasture is free, and now is the time for them to accumulate the best. The white clover is beginning to bloom, and honey from this plant is far superior to that made from any other. While this variety of clover is in bloom, they will gather from two to ten pounds per day, depending upon the strength of the hive and the condition of the weather.

The honey is taken from the flowers by the bees, and on their way home it is passing through a churning process, and by the time they arrive home it is churned. The body of the bee is put together in three sections or bands, and underneath the two front bands on each side there is an outlet or small hole, where the butter oozes out after being churned. This butter is the pure white wax. It is received by other bees and placed in the comb or cell, and by the mouth of the bee it is pressed out to its proper thickness, and the balance remaining, which, to carry out our simile, we may call buttermilk, is thrown up by the bees into the cells, and the longer it remains there the sweeter it gets, as it extracts the sweetness or the virtue from the comb, bringing back the body of the sweets which it contained in its first gathering from the flowers; and, as before stated, the longer it remains in the comb the sweeter it gets—one pound in the comb three years old having as much medical virtue as three pounds one year old.

Besides the honey, there is the pollen, which is of more benefit to the bee than the honey. After it is deposited in the comb it is called bee-bread, as it is their principal living in the winter, and their young feed on it altogether, until they are ready to work.

Bees are very prolific, hatching out a brood every nine days, from early spring until late in the fall, from 2,000 to 5,000 each time; but as their life is short (only six weeks), during working season at least one-half of them die. When the hive becomes so full that it is uncomfortable for them to work, a certain proportion are driven out (which is called "swarming.").

The first hatching in the spring is from eggs laid late in the fall, which are protected in such a manner as not to allow them to hatch until new pollen is to be had. The last hatching is in the fall, and are those which are to live during the winter.

If you kill off the American Black Queen, and put in her place the Italian Yellow Queen, you will in six weeks have hybrids something larger than our own, with one yellow band around them, instead of three, as in their purity. This will prove the shortness of their lives. Hybrids do better for me than either in their purity.

There are but two classes of bees, male and female; but there are three sizes, the Queen, Drone and Worker. They would all be of one class if the cells were all made of one size and shape; their disparity in size makes the difference. The drone is like other male bees, only that it has no sting. The worker is a female, but a non-fertile bee or "neuter." This is accounted for by the cells being only three-quarters of an inch long and three-sixteenths of an inch in diameter, while the fertile bee or queen is one and a quarter inch long and a quarter of an inch in diameter. If they were all queens there would be no out-door work, as the drones do nothing. The queen cells are always made on the outer edge of the comb, there being more room there to extend their length—the drones likewise—there being but one-quarter of an inch of space between the combs allowed for travel. The queen cells are but three and five in number, allowing one for each swarm; the rest are killed off.

The pollen is gathered in this wise: The back of the bee is covered with a fine wool or hair, and on entering the flowers the pollen sticks to it, and when necessary to release it, it is combed out. The bee has six legs, three on each side, and the middle one on either side has a comb on the under side, from the forked toe to the first joint. As this can reach only half way across the back, it is combed from both sides, and the pollen is taken from the comb by the two fore feet. It is then flattened by the two fore feet, and caught between the toes, and passed back to the thighs of the hind legs, each one receiving the same weight, as nearly as possible. The pollen is taken from the end of the petals of such flowers as the bee cannot enter while on the wing, the front feet being used for this purpose. The pollen is removed by putting the leg in the cell, when it is pushed off with the forked toe, and, stepping to one side, the other is cleaned in the same manner.

The drones are killed in the fall, the exact time depending upon the character of the winter we are to have, a fact which they surely know by instinct. If it is to be long and cold they are killed in the early part of September; if an open winter, not until the last of October. Last fall they were killed during the last of August and the early part of September; the previous fall, the first of November. I have carefully noticed this operation of the bees for the past seven years, and it has never failed.

A hive of bees will consume about fifteen pounds during the winter, or two and a half pounds per month. The weight of a swarm is from 3½ to 5 pounds. I have one of the best of my stock hanging to a patent beam scale, and can, therefore, tell the loss and gain as often as I choose.

We have nothing in the insect line which is more useful than the honey bee, and nothing more industrious, working early and late, and with economy, and on scientific principles. Their combs or cells are all six-sided. Owing to this shape, the cells of every other row are the only ones necessary to build, except the front and backs of the second ones, thus doing away with much labor; and there is nothing of any other shape which will hold more in the same number of square inches.

Truly, the Almighty has created all things in wisdom. WM. J. PYLE.

West Chester, Pa., June 2, 1875,

Now is the time to kill moth worms. Bee-keepers, up and at them! Slaughter every last one of them, and there will be no moth millers to cause trouble to weak colonies.

Read the article on Seasonable Hints.

A Stinging Subject.

My wife is very proud of our garden, and while gushing over it the other morning, a happy thought worked its way under her back hair.

What a delightful thing it would be to have a hive of bees and raise our own honey, as well as everything else.

I have always thought that woman inspired ever since she convinced me that I couldn't do better than to marry her.

This was an original, bold idea; happy thought; glorious idea. I promised her a hive of bees, and went to business with a lighter heart and a firmer belief in the genuineness of home comforts and amusements.

I bought a hive of honey-bees and brought it home with me that very night.

It was one of those patent, hydrostatic, back-action hives, in which the bees have peculiar accommodations and all the modern improvements.

It was a nice little hive, none of your old-fashioned twists or barn-size affairs.

It even had windows in it, so that the bees could look out and see what was going on, and enjoy themselves.

Both myself and Mrs. B. were delighted, and before dark I arranged a stand for the hive in the garden, and opened the bay windows so that the bees could take an early start, and get to business by sunrise next morning.

Mrs. B. called me "Honey" several times during the evening, and such sweet dreams as we had.

We intended to be up early the next morning to see how our little birds took to our flowers, but a good half hour before we probably should have done so, we were awakened by the unearthly yells of a cat.

Mrs. B. leaped from her downy couch, exclaiming:

"What can be the matter with Billy?"

The howls of anguish convinced us both that something more than ordinary was the matter with him, and so we hurried into our toilettes without waiting to do much buttoning.

We rushed out into the garden, and oh! what a sight met our astonished gaze!

The sight consisted of a yellow cat that appeared to be doing its best to make a pin-wheel of itself.

It was rolling over and over in the grass, bounding up and down, anon darting through the bushes and foliage, standing on its head, and then trying to drive its tail into the ground, and all the while keeping up the most confounded howling that was ever heard.

"The cat is mad," said Mrs. B., affrighted.

"Why shouldn't it be? The bees are stinging it," said I, comprehending the trouble.

Mrs. B. flew to the rescue of her cat, and the cat flew at her.

So did the bees.

One of them drove his drill into her nose, another vaccinated her on the chin, while another began to lay his work near her eye.

Then she howled and began to act almost as bad as the cat.

It was quite an animated scene.

She cried murder, and the neighbors looked out from their back windows and cried out "Police!" and asked where the fire was.

This being a trifle too much, I threw a towel over my head, and rushed to her rescue.

In doing so, I ran over and knocked her down, trod upon the cat and made matters no better.

Mrs. B. is no child in a wrestle, and she soon had me under her, and was tenderly stamping down the garden walk with my head, using my ears for handles.

Then I yelled and some more bees came to her assistance and stung me all over the face.

She was still giving me darby, under the impression that I was the cause of all her pain.

It was love among the roses, or something of that nature.

In the meantime, the neighbors were shouting and getting awfully excited over the show, while our servant, supposing us fighting, opened the street door and admitted a policeman, who at once proceeded to go between man and wife.

The bees hadn't got to Mrs. B.'s tongue yet, and she proceeded to show the policeman that I had abused her in the most shameful manner, and that I had bought a hive of bees on purpose to torment her into the grave.

I tried to explain, but just then a bee stung the officer on the nose, and he understood it all in less than a minute.

He got mad; actually lost his temper.

He rubbed his nose and did some official swearing. But as this didn't help matters, he drew his staff and proceeded to demolish the patent bee-hive.

The bees failed to notice his badge of office, and swarmed on him.

They stung him wherever he had no clothing, and some places where he did have it.

Then he howled and commenced acting after the manner of the cat and its mistress. He rolled on the ground for a moment, and then got up and made a straight line for the street, shouting fire.

Then the bees turned to the people who had climbed upon the fence to see the fun.

The excitement increased.

Windows went down, and some of the neighbors acted as though they thought a twenty-inch shell was about to explode.

By this time a fire engine had arrived, and a line of hose was taken through the house into the garden.

One of the firemen asked where the fire was, but just then one of those honey mosquitoes bit him behind the ear and he knew directly.

They turned a stream upon the half-ruined bee-hive and began to "play away" with one hand, while they fought the bees with the other. But the water had the desired effect, and those bees were soon among the things that were.

A terrible crowd had gathered in the meantime in front of the house, but a large portion of it followed the flying policeman, who was rubbing his affected parts and making straight for the station house and a surgeon.

This little adventure somehow dampened our enthusiasm regarding the felicity of raising our own honey.

During the next week we wore bread and milk poultices pretty ardently, but not a word was said about honey, and now Mrs. B. has gone to stay a week with her mother, leaving me and the convalescent Tom cat, and the tickled neighbors, to enjoy our own felicity, but not with bees—oh, no! J. B.

Queen Bees.

Means for raising queens are to be found in hives throughout the greater part of the year, and this is a wise and most beneficent provision against accident or sudden death to the important personage on whose life the welfare of the bee community depends, for as soon as the absence of the common mother is discovered, proceedings are at once instituted for supplying her place. By common consent, certain larvæ are fixed upon for royal honors, and around them are built large cradles with thick walls of wax. But these cradles do not take a horizontal position, like common bee cells—they project from the combs, and hang perpendicularly, with their mouths downwards. When made on the face of the combs, all other cells around them are destroyed; but where natural swarming is allowed, they are generally suspended like stalactites from the edges. Now this mode of rearing royalty—so different from the method employed in raising workers—has caused considerable speculation, and the question has been asked—why are queens placed in suspended cells, and made, as it were, to stand on their heads? and for what purpose are their cells loaded with far more jelly than they can consume? I have not the least idea why, wrote a Haddington bee-master a few weeks ago.

We think a reason can be given. In the first place, there is not room for large

horizontal cells between the combs, and in the second place, if a cell for the purpose of isolation requires to be lengthened and bent into a new position, the bees find it more easy, because more natural for them, to build it downwards. The position of the cell, though turned upside down, does not affect in the least the embryo. We believe the late Dr. Leitch, of Monomail, was the first to intimate to the public the fact of heat playing an important, if not the prime part in the evolution of queens. It is really the case that princesses require a much higher temperature for their development than common bees.

And what is rather curious, bees can command this higher temperature whenever they please! they can elevate the degree of heat in any part of the hive, and localize or confine the heat to that particular place. Thus, if a piece of comb requires mending, the temperature must be raised before they can manipulate it, but they can raise a circle of heat around the breakage, and keep the heat there within a limited sphere.

They can do the same thing to a queen cell. Having isolated it from other cells, they enclose it in a halo of caloric, two or three inches in diameter, and the heat in the halo is much greater than in any other part of the hive. In a unicomb hive, a distinct warm spot on the glass opposite a queen's cell can be felt by the hand.

The thick waxen walls of the cradle are designed to aid the bees in maintaining an equable temperature around its inmate, and prevent danger from rapid or easy chilling.

The superfluous jelly filling the bottom of the cell is put in for the purpose of bringing the larva forward to a position where it can be properly attended to, and its softness serves to keep the tender nursling from injury.—*Eng. Ag. Gazette.*

A Essey onto the Bee.

BY P. BENSON, SR:

whitch the Sr. stands for singger.

The bee is a very smoll animile, but it kan git over a verry hi fens. It belongs to the burd tribe, havin wings but no fethers, and is a verry good singger. It lives on hunny and beeswax and ripe froot of different kines. When it eets grapes it olwaze spits out the seeds and skins, or else leeves them hang on the tree. It gits its hunny out of flours when they 1st open, as Shakspeer butifuly expresses it,

> "How doth the bizzi little bee
> Improve eech shinnin our
> & gether hunny oll the day
> Frum every *openin* flour."

When a be goze up to enny 1 & kommences to sing, the person to which the be goze up to them, generly makes his hands and arms go verry fast and runs away and then the be gits mad bekoz thay wont lissen to his song and stings them.

That's 1 advantage of a tode. He is a verry unpretty animile but he never stings, leastways not unlest you should aggeryvait him verry mutch, and then he mite, but I never hear tell that he did.

The be is a aristokratick form of guverment and has a king be, and elecks a new 1 everry yeer or so.

The be and the misketo air boath good singgers and good stinggers.

The misketo keeps his stings in frunt of him whair he can see what he is doin, but the be keeps his sting behind whair he kant see what he is about, and is just as like as not to sting sumwhair whair it will hurt.

The be never suckles his young, and in this respeck is simmillar to a snappin turtle.

They ken be trained to stay at home every nite, but for a trainin to followgh his master around a dog is much supearor, for a be will followgh enny 1 else just as quick as his master if thay cum around his hive. The be olwaze lives in a behive and sumtimes in an old hollough log.

They never swarm in winter, but in summer when its a warm day, and generly thay watch their chance to swarm when fokes ar off to church or sumwhair els.

If thay swarm when the fokes is to home thay all start out with the dinnerhorn, 2 tin pans, the lookin glas, drippin pan, et settery, &c., & maik sitch a outragus nois that the swarm kant hear whitch wa to go & settles on the 1st appel tree that cums in thair wa, and then the fokes shakes them down at a hive with a sheet under it, and thay ameegidly go in and kommens hous keepin.

When I teech singin skewl I olwaze like to stop over nite whair thay keep bese bekoz hunny agrees with my vois.

Besides the hunny be thair is the parin be, quiltin be, and varis uthers too teejus to renumerate.

For the American Bee Journal.

Fertile Workers.

In July No., page 164, Stephen Hall asks what he shall do to destroy a fertile worker. Either of the two following methods will prove effectual:

1st plan.—Take a frame of brood with adhering bees from a strong stock and put in hive containing a fertile worker.

2nd plan.—Change places with a populous stock. A queen bee or queen cell can now be introduced, and accepted, as the fertile worker will be killed by the strange bees introduced. T. G. McGaw.

Monmouth, Ill., July 22, 1875.

Notes and Queries

I find in some of my hives worker pupæ unsealed. The pupæ have the shape of the perfect bee, yet perfectly white except the eyes, which are of a dull blueish color. Have these pupæ been sealed and again unsealed by the bees, or have they never been capped over? Will they come out and be as good as those which have been sealed and hatched in the natural way? How do you account for their being unsealed? Again I find among naturally capped worker-brood some cells lengthened and capped over as if they contained brood from a drone-laying queen or a fertile worker. How do you account for them? How do you determine whether a swarm has a drone-laying queen or a fertile worker, finding worker cells lengthened and containing drones, but not being able to find a queen, who may nevertheless be there, or may not. Which is the best way of getting rid of a fertile worker, and supplying a hive thus effected with a queen?

WM. MUTH-RASMUSSEN.

These pupæ have died from some cause, they will never "come out" but the bees will remove them. Sometimes this is caused by worms eating off the caps before the pupæ is grown.

The cells that are lengthened out probably contain drone brood. This often happens when there is little or no drone comb in the hive. There is no way to ascertain whether it is a fertile worker or a drone laying queen in the hive, except by finding the queen. If there is no queen there, a fertile worker is the monarch.

There is no way to get rid of a fertile worker but to break up the colony. Do it in this way. Put a hive where the one now is that has the fertile worker—and put in it a comb or two of brood and stores. Take the other out of the way a rod or two off and leave it there. Nearly all the bees will go to the old spot and begin to rear a queen from the brood given them.

The fertile worker does not leave the hive and she will be left there with a few others. After two or three days, take the combs of this hive to the old spot, brushing all the bees off. Let them starve if they will—there will not be enough to mourn over. You will then have in the old spot the bees of the old hive (or nearly all), and they will soon rear a queen, or if you have one to give them, they will accept her without trouble.

I am but a beginner in the bee business. Have six colonies—four in movable comb hives. Am so well pleased with the movable comb hives that I shall hereafter use no other kind. I used the extractor last season with success. I winter my bees on their summer stands.

The movable comb hives came through all right with one exception, and that was this: On examining these colonies a few days ago, I found several of the outside combs in each hive mouldy. Now I desire to know what was the cause of this and what is the remedy. My hives are plain boxes with movable sides and tops. Will you in your next issue give full particulars for artificial swarming, as I presume there are more of your new subscribers besides myself who would like to have information upon this point? I find the JOURNAL very interesting and instructive. FOREST PRESTON.

The ventilation of the hives was imperfect in some way. The moisture accumulated and this caused the comb to mould.

We have never kept honey over in tin cans, but do not see why it would be injured by being kept in them if the tins are new and bright.

For directions about swarming, see "Seasonable Hints," in June number.

One of my strongest swarms of bees are killing off the drones, while the other colonies that have swarmed have not killed theirs. This stock has not swarmed, but the bees hang on the outside nearly all the time. I had a weak swarm and I changed places with it and this strong swarm. The weak swarm seemed to be greatly helped, but the strong swarm killed their drones, in about ten days, although full of bees, and the honey pasture ought to be good now. Did the taking away of so many honey gatherers scare the rest into killing the drones?

MRS. MORRIS MCHENRY.

Strong colonies of bees will kill off drones, on any occasion when a scarcity of honey occurs or is threatened. In this case, your strong colony had its supplies much lessened by the outside bees going to the weak hive — its numbers also were less, and it became alarmed as to its "ways and means." Wisely, they began to get rid of useless consumers.

Probably the mode of yours was a good

one, in the end, though, before changing positions in this way, one should be sure that the weak one has a queen and is in shape to be benefited. If not, it is better to help it by the addition of a comb or two from another hive.

Is it necessary to feed bees when swarming or after they have swarmed?

A BEGINNER.

In bad weather it is sometimes absolutely necessary, at any time it helps a new colony, unless you can give it stores from another hive.

We have seen a peck of bees in an empty hive, put there after swarming, starve literally, during a long-continued rain. It pays to give them syrup to encourage in brood rearing and comb building, even in good weather.

LANSINGVILLE, N. Y.

I would be pleased to make a few inquiries, in relation to bees and their culture, through the columns of your valuable JOURNAL.

1st. Do you think bees, if wintered on summer stands, and protected from the north and west winds by a tight board-fence, do the best to face the south or east?

2d. Do you think it would be any better for the bees to set upon a row of corn-stalks on the north and west side of this fence? Some say the objections to corn-stalks are, if set up thus, that they will draw more or less dampness, and do more harm than good.

3d. Do you think bees can be wintered on summer stands in the vicinity of New York or Vermont, with safety? If so, please tell us how to prepare stocks in frame hives, for wintering on summer stands.

4th. Do you think comb that bees have died out of through the winter, is fit for use, unless perfectly clean and sweet, and free from bee-bread?

5th. Do you think that feeding very weak colonies of bees in the spring, that have plenty of honey in their combs, is of any use towards promoting breeding earlier?

6th. Do you think bees winter as well on summer stands, with honey at the ends of the frames, as above the cluster?

7th. Do you think new cotton factory cloth is poison to bees, when made in a quilt and placed over the tops of the frames? I have been informed that such is the case, and that it never should be used unless thoroughly washed and bleached. D. W. FLETCHER.

We will answer our correspondent's questions, with regard to preparation for winter, in future numbers.

As to the combs in hives, where the bees have died, being fit for use — we can say that such combs have been used in many cases, and strong, healthy colonies been raised in them. The bee-bread will do no harm. We would brush such combs well and hang them in the shade or under cover, a short time, before using them. If not perfectly clean, a strong colony will make them so in a short time. We would not give them to a weak colony, unless perfectly clean, but you can take a comb from a strong colony to give to a weak one, and replace it with one that is old, and even mouldy, and the bees will in quick time make it all right.

We do think it pays to feed weak colonies, even if they have honey in the comb; either take all the honey from them, saving it for further use, and feed them syrup, or else uncap some of their own honey for them.

We have made many quilts of new cotton cloth, both bleached and unbleached, without any injurious effects.

MRS. TUPPER.—*Dear Madam:*—The very best cage for introducing queen bees into nucleii or full stocks, is a queen cell. I save all the large ones that hatch and by this means am successful in introducing *unfertile* queens. I enlarge the empty cell at the base with a flat stick or knife blade, put the queen into it in the natural position, and close up the cell, either by pinching the end together, or by pasting a thin piece of propolis over it, always leaving or making a hole large enough for the queen to put out her "tongue" that she may be fed. By the time she is cut out by the bees they will be willing to own her. You no doubt have noticed that bees frequently destroy a strange queen cell when given to them to hatch; but when they find a live, sprightly queen in it they do not kill her. At least that has been my experience in a number of trials, all of which have been successful. I have thought that an artificial cell made of wax, pretty thick, with pin-holes stuck through it might perhaps answer the purpose; but having plenty of empty queen cells I have, as yet, had no occasion to try it.

I take the liberty of addressing you that you may have an opportunity to try this plan, and an account of your success or failure in the AMERICAN BEE JOURNAL will be sufficient answer to this.

WM. C. PELHAM.

We had two queens when we received this letter from Mr. Pelham, inviting an introduction. At this time of the year we can always find queen cells, so in less than an hour after this hint came we had our queens in large capacious cells, and put them carefully in hives. Next morning, to our chagrin, we found the cells empty, prematurely, we thought; but an examination showed us the queens, very much at home, on the combs. This time it was a success. Thanks, Mr. Pelham. We shall try it again, even if we have to mould a queen cell over a thimble.

For the American Bee Journal.

Utilizing Drone Comb.

All drone comb that should be removed from the hive may be put into surplus boxes or frames, if white enough and clean. It is generally white enough until the brood that is first put in has spun cocoons. To remove the brood slice off the caps with a thin knife, or if the cells are drawn in at top ready for sealing, the thickened edges of the cells should be sliced off. Then lay the comb flat on a board and pour a stream of water on it from an elevation of a foot or two. The water will force out all the larvæ, and any eggs or very young larvæ may be killed by sprinkling salt in the cells. After the salt has been in a few minutes it may be removed by pouring on water. The fumes of burning sulphur will kill the young larvæ and eggs, if preferred. W. C. PELHAM.

Voices from Among the Hives.

W. W. MOORE, Clay Co., Iowa, writes: "The two stands of bees that I received from Mrs. Tupper a year ago, now number sixteen swarms, with one division this year. I am very much encouraged in the business."

Mrs. C. E. CRAIN, Milwaukee, Wis.; writes: "The flow of honey for two weeks has been very abundant, from white clover. Before that we had almost none, owing to cold wet weather, and the bees often got restless and seemed very anxious to be at work; but now every cell available is filled with honey."

T. J. WATERS, Quasqueton, Iowa, writes: "I received the nuclei Mrs. Tupper sent me June 8th. The weather was so bad that I did not transfer them until the 11th. I found them in good condition, strong and healthy. They are as strong as a full colony. There is an abundance of white clover in front of my house in a pasture lot of 55 acres, so I expect to do well. They have a hive containing 12 frames of old comb, with those she sent, except the drone comb."

BENJ. T. CLAREBY, Rolling Home, Mo., writes: "Bees are doing poorly here at present, but I think they will come out all right, yet. Have put into practice the treatment of bees as described in June number, Vol. XI., page 121, and find it to work like a charm. And all other suggestions that may be found in the JOURNAL have proven to my entire satisfaction. Believing that none of them will fail, I think it worth its weight in gold to any bee-keeper."

C. W. GREEN, Oquawka, Ill., writes:— "Bees have done nothing this season in this neighborhood. Very few natural swarms. To-day (July 19th) is the first day that bees have come in heavy with honey. My bees had plenty of honey when taken out of the cellar. So that by giving frames of honey to the hives that were out (wintered on summer stands), they have all lived and are mostly in good condition to gather honey. What honey we get this year, will be from monarda and buckwheat. My bees are Italians and Hybrids; had 26 hives in the spring; increased to 41. Out of over 60 hives of black bees in this vicinity, have heard of *only* one natural swarm. No blacks for me."

T. G. MCGAW, Monmouth, Ills., writes: "This has been the poorest season for honey I ever experienced. From the middle of June till the 10th of July bees have had to be fed, to prevent them from starving. Since the 10th strong stocks have gathered enough to supply their daily wants, and brood-rearing is going on again quite rapidly. Most of the honey gathered now, is from the common black mustard (*Sirupis Nigra*), the honey being of a limpid golden color and blank taste. I have not taken an ounce of either extracted or comb honey this season; neither have I had two square feet of comb built. Still I am in hopes, before frost comes to get a good yield of box honey from the fall flowers. The white clover was badly frozen out, and what did bloom, did not seem to secrete any honey."

M. D. DUBOIS, Newburg, N. Y., writes: "I have 17 hives; but no new swarms to date, (June 10th). Bees are very late in swarming this summer. Last year the first swarm was May 29th. Last year, though a late spring, it was an extraordinary good season for honey. This season bids fair to be very poor as it has been very dry and cold; but my bees have been for the last three days tumbling in honey from locust blossoms. It seems they would break their little necks, they are in such a hurry about it. We have no basswood here. The principal source of honey is apple blossom, locust, and white clover, of all three of which we have plenty of. But I planted 1,000 young basswoods in my nursery to grow for my-

self and give away to my neighbors for the benefit of my bees; also tulip trees. If Mrs. Tupper likes a portico to her hives, I wish she would try my adjustable portico, it works like a charm and there is no patent on it. It can be made for 15cts. or less, and fits any hive."

R. BACON, Verona, N. Y., writes:—"Bees in this vicinity have wintered badly. Some bee men have lost all they had. I could have made as good a report on mine, on the 6th of April, as many others did at that time; but since then I have lost heavily. I put into my bee-house, last fall, 128 stocks. Some, no doubt, were not perfect or fit for wintering; but I had not time to select them. On the 1st of April, I had lost three stocks, but after that they had dwindled down to 87 stocks, and some of those were weak. This spring, with me and many other bee men, has been much worse than this winter. I fear the bees are so reduced and the season so far spent, that there will not be much of a honey crop this season. I see some report that they have given their bees large quantities of meal. I think that is wrong. Does it not stand to reason that more than they want for present use tends to shorten up the room for brood, and does more harm than good? I hear many complain that their bees go to the woods in swarming time. I would say to such, if they will give their bees good clean hives and shade them well from the sun, they will have none of this trouble. Hives should be kept in a cool place before the bees are put in them."

W. PORTER, Fairfield, Wis., writes: "I had a plum tree blow on a hive, and not wishing to destroy it, let the bees swarm as they would. The first swarm was secured all right; the second swarm came out and went back, another going with them. The next day they came out and were bound for the woods without alighting, but were stopped. The next day but one after, another swarm came out about nine o'clock and started for the wood, but were fought stubbornly for about half a mile, and passing water were stopped. About noon the same day another swarm did the very same thing and met the same fate. The next day another came out, started the same course, but being taken in time, were compelled to give up the chase. Two days after this another came out, and another swarm being out with them, they in part went together and stopped on a tree, but before I could hive them they went the way of all the others and succeeded. None of these swarms were put back; only one went in to it. Five swarmed and all tried to get away."

DR. W. B. RUSH, Point Coupee, La., writes: "It has been a long time since I wrote for the good old AMERICAN BEE JOURNAL. April 22d I left my native hills in Pennsylvania for a warmer climate. I stopped at Cincinnati, Ohio, two weeks, at the suggestion of J. W. Winder. I called on friend Chas. F. Muth; he and I visited Mr. J. S. Hill. We found an excellent apiary of 82 colonies in a condition that any apiarian should be proud of, and as all will testify, Mr. H. is a most excellent man. The next morning P. M. McFabridge called on Mr. Muth and the two called on Messrs. P. Curry, Stevenson and Savage, and had a fine bee talk. Mr. Muth is not buying as much honey this year as last. Mr. Winder has his apiary at Lawrenceburg, Indiana, and is trying to raise queens, but I think queen raising north of Arkansas or Southern Tennessee, is a very expensive business. In Louisiana, they can be raised for $2 and tested with more profit than at $4 at the far North. Mr. Winder has some queens and also Mr. Hill. I left Cincinnati on May 7th for Louisiana. I stopped off at Bowling Green, Kentucky, and the outlook for bees was good—plenty of fruit and clover growing. I stopped at Water Valley, Miss., but it seemed too sandy to do much good there. I came to New Orleans, where Mr. J. H. Young met me. He is quite an intelligent man on bees. He has a new frame that is worthy the attention of bee keepers. It is the regular Langstroth frame with tin supporters on the corners. After 24 hours' ride on a steamer I landed in this parish. I met Hereford, of Baton Rouge, on my way. I was the guest of Mr. Chas. Parlange for two weeks, and any one visiting this State for bees, should not fail to call on Charley; he is a gentleman and very intelligent. I got one hundred colonies of black bees on June 1st, and I am now waiting for my machine. I will buy 100 wild swarms and go into winter quarters with 300 good stocks. I intend to Italianize all. I am *delighted* with the country. Mr. Parlange let Mr. Webre have 65 colonies on April 1st. By June 17th they had increased to 150 and taken 20 barrels of honey. I arranged a hive for him with three stories, each story containing 9 frames—9x17. The first three weeks of June he took 18 gallons of honey from it."

A PLANT DESTRUCTIVE TO BEES.—The large podded milk weed, almost invariably causes the death of every bee alighting upon it. The bee either adheres to the plant or else bears away a small scale sticking to its feet, and cripples itself fatally in attempting to remove the annoyance.—*Agricultural Report.*

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

American Bee Journal.

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JOURNALS are forwarded until an explicit order is received by the publisher for their discontinuance, and until payment of all arrearages is made as required by law.

Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue.

☞ Parties desiring either Langstroth's or Quinby's Works on Bee-Keeping can get them at this office; but, as the late Congress doubled the rate of Postage formerly paid—those ordering should enclose twenty cents each for postage.

GERMAN BEE STING CURE.—A drop or two will remove all trace and effect of a sting in a very few minutes. It costs $1.00 per bottle; one bottle will last a life time. It is free from all poison, and may be successfully used for all insect bites. Can be sent only by Express. For sale at this Office.

☞ Special Notice. ☜

During the past winter and spring the general cry has been: "Hard times; please wait a little while for our subscription." In consequence, our receipts have been light, while our expenses have not been lessened.

We have cheerfully "carried" thousands of our subscribers, and now trust that they will respond as soon as possible, as we have obligations that must be met *at once*. Many subscriptions ran out with the JUNE number, but we hope to hear from them NOW, as well as from those that expired before that time.

We shall continue to send THE AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order from them for a discontinuance, and we hope those who do not wish to continue their subscriptions will notify us by letter or postal card either when they expire or before that time.

We ask those who are in arrears to send us the amounts due or at least a part of them, during this month, as THE AMERICAN BEE JOURNAL greatly needs these amounts to ensure its continued prosperity. Address

THOMAS G. NEWMAN,
196 and 198 S. Clark St., Chicago, Ill.

ADAM GRIMM, of Jefferson, Wis., is one of the largest honey raisers in the world. His crop for last year was 25,919 pounds, and his apiary consists of 1,159 colonies. So says a political exchange.

☞ The postage on seeds, transient papers, etc., having been doubled by late act of Congress, we shall be obliged to ask our customers, when remitting money to us for seeds, or specimen copies of JOURNAL, to send the necessary stamps for postage. ITALIAN BEE CO.,
Des Moines, Iowa.

Hereafter, in order to secure the prompt attention of the publisher, let all communications and remittances, as well as *all* matters pertaining to business connected with the AMERICAN BEE JOURNAL, be addressed as follows:

THOMAS G. NEWMAN,
196 and 198 South Clark Street,
CHICAGO, ILL.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, SEPTEMBER, 1875. No. 9.

Seasonable Hints.

From all quarters we hear that the season has been in some respects a discouraging one for the bee-keeper. A cold, late spring was followed by excessive rain, and this continued until the white clover season was nearly over. Linn in some places yielded little or nothing. With us, it yielded honey only three days, and then less than usual.

In damp, wet weather, for some unexplained reason, bees use most of their honey in brood rearing, and this accounts for the reports which we have from many to this effect. "My bees have stored no honey in boxes and very little below—*every comb seems full of brood*, but I get no surplus." Now, there has been honey, or they could not have reared the brood. In all sections where the fall pasturage is good, we look for great yields of fall honey, because the hives are full of bees, and also because the rains have kept the corn fields weedy and promoted the growth of all fall blossoms. Give the bees, then, every facility for storing honey, and until frost they will do it. They are not disposed to store in supers so late in the season, but give room in the main hive and then extract it often. By doing this you will also give the queen room, and she will provide the young bees that are essential to safe wintering.

We have often said it—but we now repeat the advice: What every hive needs now is a fertile queen, room for her eggs, and force enough to keep all in working order. This is absolutely necessary to secure good winter condition. Any colony that has not these requisites now should be either broken up or divided. In going through your apiary now, you will find that exchanging combs between a strong and a weak colony will benefit both, and this is *the* time to do it, and equalize all preparatory to winter. All changes can be made better now while bees are still storing. Of all the times to introduce young queens we prefer the fall. Every Italian queen put in a hive now will be at her best next season, and by putting one in every hive now, you make sure of having no black drones next year.

Leave no scraps of comb about now, and no worms in hives to winter over.

Too many bee-keepers pay little attention to their stocks in this month, but there is no time when work in the apiary pays better. E. S. T.

Special. — To Our Readers.

In our October number of THE AMERICAN BEE JOURNAL, we desire to publish several pages of correspondence in answer to the following questions:

1.—What has been your success this season up to date, as regards honey and swarms?

2.—What is the prospect for the balance of the season?

3.—Which are the *best* three honey-plants in your location?

4.—When do they *begin* to yield honey, and *how long* do they thus continue?

We desire responses to the above on receipt of this issue of our JOURNAL, and from every subscriber on our list. Reader, we mean *you!* If responses from the Pacific coast do not reach us in time for our October JOURNAL, we will try to find room for them in the November number.

Do not fail to date your letters, nor to give us your name and address.

If you send any questions relating to bees, be so kind as to write them on a separate sheet of paper.

Honey-Producing Wild Flowers.

I send you samples of two flowering plants. I don't know the names, and will be obliged if you will give their names in THE JOURNAL. They are both in bloom now, and the bees are very fond of them.

No. 1 is a plant with long, narrow rough leaf; has several stems, on which small blue flowers are thickly set; grows about 18 inches high. It grows along road-sides and on the commons generally, grows on rich or poor soil. Bees seem to prefer it to white clover.

No. 2 is a pollen flower; has rough leaves and has several stems from each crown, with a pod-like seed ball. The stems are almost 18 to 24 inches high. There are quite a number of other wild flowers here that bees gather stores from.

Russellville, Ky. T. E. SHELTON.

Prof. C. E. Bessey, Professor of Botany at the State Agricultural College at Ames, Iowa, gives the following descriptions of the plants sent by our correspondent:

No. 1 is the narrow-leaved Verbena. (*Verbena angustifolia*). It is found from Massachusetts to Wisconsin southward. It probably occurs sparingly in Iowa, but in the South it is abundant.

No. 2 is Ribgrass, Ripplegrass or English Plaintain, (*Hantago lanceolata*). It is a near relative of the common dooryard plantain, and like it, is a native of Europe, from which country it has come as a weed. It occurs in Iowa in the vicinity of dwellings. C. E. BESSEY.

The Centennial.

It is time that we were hearing from all bee-keepers who design to aid in the exhibition at the Centennial. We shall be greatly disappointed if every one who has bees does not feel a personal interest in making the display of apiarian wares worthy of the business it will represent. We refer those interested to the description of the display made in England last year, and which was given in THE JOURNAL. Those who would like to aid in the work, and do not know just what they can do, may find help in consulting the list of things exhibited there. We hope to have many more articles and a greater variety, but to secure this we must all have the work in mind — not leave it for a few individuals to do, or let it lay until the last moment.

☞ The publisher of THE AMERICAN BEE JOURNAL made a business trip to the East last week, and enjoyed a brief visit with Mr. A. I. Root, at Medina, Ohio, better known as "Novice," who publishes *Gleanings*. We examined his New Idea Bee House. If it is as good in practice as it is in theory, it will certainly be a grand thing for wintering. We will give a full description of it in our next issue.

At New York we saw Mr. H. A. King, of patent-hive and bee-publishing notoriety for the past ten years. He has now left the business and is devoted to publishing a religious paper called *Union in Christ*. We also interviewed Messrs. King & Slocum, the present publishers of the *Bee Keepers' Magazine*, who are energetic and business-like gentlemen. Our visit was very brief, but it was also very pleasant.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the ten volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents for, to complete them. Those who wish them, should write us at once for price.

We have several single volumes (complete), which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.00 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00, postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarians.

Voices from Among the Hives.

D. H. Ogden, Wooster, O., writes: "Bees in this section are not generally doing well. There is neither honey nor increase. About May 1st, 1874, had seven weak colonies, but by Sept. 1st they had increased to thirty-two strong colonies. My hives were of the old style King pattern. I also got 40 lbs. of nice box honey. About Nov. 1st, I packed straw around them and covered them, to winter them on the summer stands. It became cold immediately, and I did not see another bee until the end of January, 1875. Then, on a warm afternoon, I opened the tops of the hives to make egress easy, and they had a good fly. From then until March 10th they were covered up again. I then took away the straw, opened the hives and cleaned them all out, and didn't lose a bee. I now have 21 strong colonies, the new ones in ten-frame hives (12½x14½). They are now nearly all filled. If my bees had not been strong in the spring, I should have had no increase. When I opened them in March they had from seven to eight cards full of brood, and the hives full of bees too. The fruit was nearly all killed by the frost, and there was no bloom till white clover came, of which there was a fair crop. My bees have done very well considering the season. If the white clover lasts some time yet, I shall get considerable box honey. I divide my bees by taking from three to four cards (with bees on) out of the old hive and put them into the new; I then set the new hive where the old one stood, which I remove some distance away (not less than four feet). Of course I give the new one a queen, and they always do well and prosper." August 2, 1875.

William Reynolds, Boliver, Pa., writes: In The National Bee Journal for 1874, page 162, is an article, headed "Bees or Hornets," from J. F. Rodgers. My experience is similar, and it is this: I received my queen from Col. Leffell, Springfield, Ohio. She raised drones, the greater part with white eyes and reddish colored head. I have still raised all my queens from that strain and my experience is this: Every hive in my apiary (some fifty odd) has about one half of this kind of drones. They are the finest colored drones I ever saw, but they are stone blind; not one of the white heads that issues forth ever finds its way back again. The other half that have heads of natural color are all right, fly in and out regularly, and are in every respect complete. This shows me that it is the breed, and that they are of a superior breed too. This dropping off of the blind drones prevents the hives from being so full of drones as they otherwise would be, and suits where bee keepers are too careless to regulate their drone combs. From my experience I would recommend every bee keeper to propagate this strain of queens. Every queen I have reared from this one, shows this feature in the drone progeny."—July 20, 1875.

G. E. Corbin, St. Johns, Mich., writes: "On page 184 of your valuable Journal for this month, a correspondent from West Chester, Pa., essays to enlighten its readers. I quote: "Bees are very prolific, hatching out a brood every nine days, from early spring until late in the fall," etc. . . . "The first hatching in the spring is from eggs laid late in the fall, which are protected in such a manner as not to allow them to hatch until new pollen is to be had." . . . . "There are but two classes of bees, male and female. . . . They would all be of one class if the cells were all made of one size and shape; their disparity in size makes the difference." Is an insane asylum located at West Chester, Pa.? It does not matter, however. I, for one, am willing to contribute to have the bees spoken of sent to the *nearest* asylum, wherever that may be."—August 3, 1875.

Paul Viallon, Bayou Goula, La.—"This season has been one of the best for several years. From the 1st of April to the 15th of July, I have made three new colonies from nearly every old one. I have extracted an average of 50 lbs. of clover honey from each; and from the few I did not divide, I extracted an average of 140 lbs. each and expect as much from all in September and October, from Golden Rod and Boneset. I took a first natural swarm on the 29th of March, which has filled its hive (20 frame hive New Idea plan) and has given a swarm, which has also filled its hive, and both have been extracted several times. They are our native bees. So far I cannot see much superiority in the Italian bees over our native grey bees. We have two kinds of bees here—the grey and the black. The last named are smaller, and really worth nothing in comparison to the others."—Aug. 4th, 1875.

Joseph Clizbe, Woodbine, Iowa, writes: "I commenced the spring of 1874 with 13 stands in movable comb hives. Increased by artificial swarming to 20 stands. I put them in a cellar 20x26 feet, left them in care of an agent and went East on a visit. The house over the cellar had no fire in it, consequently the cold and damp chilled the bees, and they all died except five stands that I took out in March. Two of those were queenless; so I doubled them up into the other three hives, and from them I have made seven new stands. Having now ten stands (mostly Italians) I extracted 75 lbs. of honey, and may extract some more, but not much, perhaps, as I want them to go into the cellar with abundant supplies.

I shall have a stove in my cellar next winter to counteract the influence of those terrible "north-westers."—August 2, 1875.

A. Boyd, Jay Co., Ind., writes: "This has been a very poor season for the bee-keeper in this portion of the country. It has been so very wet there has been no honey in the flowers, and the consequence is that the bees have not as much honey as they had in the spring. There has been enough honey gathered to keep them increasing fast enough, and we have generally more than doubled our stocks, but I know of no one getting any surplus, and it has been wetter the past week than before. If it does not get more favorable for a fall honey crop than it has been, there will have to be a great amount of feeding done, or we shall lose what bees we have the coming winter. There is much buckwheat sown. So if the weather is favorable for the secretion of honey we expect our bees to fill up without feeding."—August 2, 1875.

R. Miller, Crompton, Ill., writes: "As there was a great deal of talk about California as a great bee country, I took the time and money to go there last winter to examine the honey and bee resources of that far-famed country. I have not seen any place in California that I liked as well, as I could find plenty of places here. It is a poor mountainous country, very dry, and of but little account unless it can be irrigated. Water is the dearest thing in all California. I saw more poor people in California than in any place I ever saw. There are only one in about 50 who have any land, or anything else, and, as a rule, they are very unsociable people. I have a relative who went there with $1,600 and in about one and a half years he lost all he had. His bees got the foul brood and he lost them, and is coming back. There are no advantages there that cannot be obtained here. I can not do better than to refer to the letter in the August number of The American Bee Journal, page 181. It tells the truth, about as near as can be. —August 5, 1875.

S. W. Stevens, Ridgefield, Conn., writes: "The present season has been the poorest for honey that I have known for several years: We lost ten stocks during winter and spring, and our remaining 25 stocks have given us but 100 lbs. of honey thus far; sumach is just coming in bloom, and I think will give us a good yield, if the weather is favorable. White clover, which is our main dependence for surplus honey, was nearly all killed by the severe winter, and the little that survived the winter seemed to yield no honey, as it was scarcely visited by the bees. Our bees have been making brood rapidly for a month past, and we are hoping for an abundant yield of honey from autumn flowers."—August 2, 1875.

J. F. Brown, Winchester, Va., writes: "This has been the poorest season for honey raising we have had for ten years. Up to this date last season I had taken from 27 colonies 2,000 lbs. of box honey; but from 47 colonies this season I have not taken 200 lbs. The blue-thistle, from which we get our main supply of honey is now about dried out. I had three of my best colonies to burn up this spring — the effect of having my apiary spread with sawdust. I never before had as much trouble getting my young queens fertilized. Out of 25 young queens I had ten more lost on their bridal flight."—July 21, 1875.

James M. Marvin, St. Charles, Ill., writes: "Fruit flowers were nearly all killed this year, as well as clover. The late crop of clover yielded but little. The linden flowers were eaten by an insect. I only obtained five barrels of surplus up to Aug. 2nd, when I should have had fifty, for my stocks are very strong, and have been in extra good condition this season. The increase is thirty per cent in swarms." —August 5, 1875.

Louis Schnerr, Shrewsbury, Pa., writes: "I have now fifty stands of bees. I expect to get one thousand pounds of honey. I commenced 3 years ago with 3 stocks. The weather has been very favorable here. We had honey dew here for over five weeks. Last year I bought half a dozen queens, for which I paid $3.00 each, and now I am not able to raise pure stock. The queens are very nice colored, but their daughters are all impure, and black."—July 26, 1875.

Will. M. Kellogg, Oneida, Ill., writes: "No honey yet this year, but bees are doing finely in regard to brood. Have had too much wet weather; basswood did nothing for us, and white clover little better. We are hoping for our usual honey harvest in Sept. Will have stocks good and strong, if there is honey for them to gather."—August 6, 1875.

I. Ingmundson, Austin, Minn., writes: "I have received from Mrs. Tupper, the foundation comb. I consider it a perfect success in every way, except the fastening, which I think can be improved. I put some in my glass-observing-hive, which is for single frame, and find the bees lengthen out the cells very readily. The price, however, I think is too great to use it extensively, but to cut it in inch strips and use it for starting, it will be a great help."—July 24, 1875.

Charles Lohman, Cameron, Mo., writes: "Black bees have about given out in this part of the country, but the Italians are doing finely. What I have learned from The American Bee Journal, during the past six months, will take me ten years to put fully into practice."—August 3, 1875.

Correspondence.

For the American Bee Journal.

The Swarming of Bees.

It has often struck me as strange that bees never select a prepared home—that is, a hive made ready for their occupation. I have kept hives near the swarming colonies all in complete order, but not a swarm would ever pay the least attention to one. On the contrary, they will rise to the loftiest trees near, and there remain uncomfortably perched, as one would suppose, until their scouts report a hollow tree, affording poor accommodation at the least, and likely a long way off in the forest, to which they betake themselves in preference to any Langstroth, Quinby, or other patent hive ever invented. I take it that the little fellows are shrewd enough to know that they are in a state of slavery while under man's control, and that their running off is simply a strike for liberty. A swarm of my Italians, the past Spring, were found in a tree eight miles from home and safely captured. I have read in the books, and heard related, that if you could catch the queen during the swarming operation, and place her on a pole or limb, the whole colony would immediately gather to her, but such has not been my experience. We have a little pet darkey of ten years, who has an eye like a hawk, and is as vigilant to catch a queen as is a cat to steal cream, and at the first signal of swarming, he is sure to be on hand at the mouth of the hive, bravely, regardless of the thousands of bees darting and buzzing around his naked head, and he often intercepts the queen as she comes out, and sometimes finds her on the ground near by, and I have clipped their wings and placed them in many various positions, and held them in the very thickest of the swarm, yet never in a single instance have I succeeded in collecting the swarm to her.

Nevertheless, by securing the queen the object of preventing the swarms leaving is effected, for when they fail to find her majesty they invariably return to the mother hive, and so if you have the queen, all you have to do is to move the old hive out of the way, substitute a new one in its place, and when the returning bees begin to enter it, put in your queen, and, presto, your bees are hived without the trouble of climbing a tree to get at them, to say nothing of stings and other vexations too often attended on the operation of hiving in the good old way. I always give my newly-hived colonies a frame or two of brood comb, by way of giving them a new start in the world, in which case they will never desert their home, as they frequently do if left alone to their own resources.

I lately witnessed, at my friend W. S. Cary's, in the town of Tangipahoa, a most remarkable circumstance in comb-building. He had a second story of frames, which being filled some month or more ago, he cut the comb out and returned the frames. Now, what did the bees do *but build the comb upward* from the tops of the lower tier of frames. True, they did not build very perpendicularly, but they evidently did the best they could toward it without an upright to guide them. Does not this indicate that they possess reasoning powers? Their inference doubtless was that the comb had fallen off from the upper bar by its superincumbent weight, hence their wise conclusion to reverse the order of operations, and build *upon* a base instead of *from* it. If any person doubts this wonder in beeology, there the thing is to be seen for itself, plain, undoubted and unquestionable, near a dozen combs all being built upward from a bottom foundation. But that is tautology.

Some time last year, being hard pressed for frames to fill my hives, it occurred to me to put in a single straight bar for the bees to build from, and it succeeded so well that I have this year tried whole hives in that way, and in every case they build smoother and straighter comb from them than they do within the frames. So I flattered myself that I had made quite a useful discovery; but the wind was taken completely out of my sails by seeing in the Bee Journal that Dzierzon, a German apiarian, had some years ago recommended the very same thing.

In building from a single bar, they will attach the comb at intervals to the ends of the hive, which merely serves to hold it steady, and in lifting it out, all you have to do is to run a knife down the ends and separate it from the boards. A common case knife will do the work, and I find it less inconvenient than prying out the frames, which will, in spite of you, be glued in their places in one way or another. For extracting honey the frame would be perhaps preferable; but for all other purposes, and especially for straight, smooth comb, the bar has the advantage. J. B. R., of Abbeyville, says he puts in two nails in the ends of his frames, as one does not hold them steady enough.

Now, the design of the nail in the end is to let the frame swing to its proper perpendicular, as the bees in making comb form themselves into a plummet, and work to a perpendicular line; so if your frame does not hang right, the comb will not be made to follow it. With two nails in the ends it would be an accident if the frame hung perpendicular.

I am aware that some successful bee-keepers make their frames to slide in

grooves, and they are therefore steadily fixed, but in that case the frames are made square with the box, and the latter put on a level, which secures the frames in the proper upright position. As some of your readers may wish to try the single bar plan, I will say that it is simply the upper stick of the frame used alone. I take an inch square piece and saw it off an eighth of an inch shorter than the inside of the hive, drive small nails into the ends at corresponding corners, and let them rest in rabbets, just as a frame does. The lower angle forms the line guide for the comb builders, and in my experience they invariably follow it; whereas, in frames they often diverge from the top line, with the view, I think, of avoiding the end piece. The only way I can ever get them to build true in frames, is, either to put a frame between two combs, or else elevate the back end of the hive to an angle of ten or fifteen degrees.

I. APPLEWAITE.

For the American Bee Journal.

Bees in California.

I have lately received a letter from a prominent Kansas bee-keeper who went to California last Spring. I hope you will publish the extracts from it that I send herewith in answer to Mr. Whitney's letters that have appeared in THE JOURNAL, and may mislead a great many. As I intended to go there myself, I have been interested this season in getting information from that section of our country, and I have had very good facilities for doing so, as many of my acquaintances went there last spring. A few of the facts about the country are as follows: Some 500 or 600 miles of the southern part of the state are about, as my correspondent states, as near a desert as can be. There is only one stream that reaches the ocean from the mountains for over six hundred miles, and that only runs in a little dribble for a short time.

When Mr. W. refers to the fruits and the harvest fields, he must mean a portion of the state five or six hundred miles from where he lives, and then the facts are that laboring hands could not there get employment at any price. The country has been perfectly glutted with common laborers this season. Mechanics have done somewhat better; especially carpenters—they getting from three to four dollars per day (gold). Masons they have no use for, as they don't build brick or stone on account of the earthquakes.

As to bees in San Diego county, all favorable locations are now occupied, and it is probable that the country is already over-stocked for profitable bee-keeping. Mr. W. says "society is good." That may be a fact, as it is always good in a new country sparsely settled, and especially where there is no women, and the men principally all "baching it." But to the letter referred to above:

"Though I have been here only three or four weeks, I will give my impressions. Of all the God-forsaken, dreary, desolate, utterly useless, desert country you ever saw, this is the worst. Sailing as I did down the coast, we rarely left sight of land from San Francisco here, the whole way the country was barren of trees, and the whole face of the country looked dead and destitute all the time. San Diego is a small town, from which half the people who settled here a half dozen years ago, thinking they would make their fortunes by owning town lots at the terminus of a great railroad, have left for America, and as a consequence, one half of the houses and stores are vacant, rents down to nothing. The town is dead as to business, and a general air of get away and live if you can, if not stay and starve in the town. They have a daily line of two-horse stages from here up the coast to Los Angeles, 120 miles, and a line of steamers from San Francisco, arriving once in about five or six days. The town is supported mainly by invalids, who came here for their health, and if they don't die of ennui, they are well enough to live elsewhere.

"About every third man you meet, curses the country, and wishes he had been anything but a fool to come here and invest money."

"There is no green thing here, except in small gardens, where they have wells and wind-mills to throw on plenty of water. They can't raise a thing here farming, for they have tried it and been ruined by the dozen and hundred. The whole country is worthless for anything except sheep and bees. The sheep men have now practical possession of all the grazing lands. I saw thousands of sheep herded on land as bare as a road. They claim great profit in the sheep business, and I presume they do well if they only have the range. Still wool is only 12 to 17 cents, so I don't see any great money in it. The face of the country, from 15 to 20 miles from the coast, is rolling and covered with cactus and bushes, none of which are more than six to eight feet high, but mostly about two feet. The soil is a sandy gravel, mixed with clay, overrun with swifts, horned-toads, snakes, ground squirrels, gophers, rabbits and quails. Thousands of acres are perfectly honeycombed with gopher and squirrel holes, giving a homesick and desolate look perfectly unendurable to one who has been in Kansas. The climate is all they have, and that is the same day after day—warm, cold, warm, hot—but you want to wear winter clothes.

"A day or two after my arrival, I took a

horse and rode out to Bernardo and beyond, some forty miles, and visited a large number of bee-ranches. The bee-men have squatted all over the government land where they thought they could get good ranges for their bees, living in small frame houses, and mostly without women —"baching it." Bees did so extraordinarily well here last season, that they created a perfect furor, so that all the citizens here in town, who had any money to invest, went out into the mountains and hunted up a claim, and buying at $15 or $20 a hive all the bees they could. Some few attended their bees and some let on shares, giving one-half the honey and one-half of the increase, and furnishing one-half of the hives and surplus boxes; others live near to take care of them.

"Last winter was dry, but the bees started out nicely to swarm the latter part of March, but the first of April they had a heavy frost, which cut off all the flowers and put an end to swarming; since then many a fine swarm has starved to death, and it is only since the fifteenth of this month (May), that they made enough to live on. Now they are doing only fairly, and they say they will not get one-half a crop of honey. Many are discouraged, particularly the new ones and those who went into the business green, as might be expected. This Fall, say October, you can buy an apiary in box-hives for less than $3.00 each. I had fifty stands offered to me in Harbison's hives, at $5.00 each; dozens of ranches, and bees will be for sale cheap by discouraged bee-keepers.

"I have been to Harbison's two or three times, and at one of his six or eight apiaries, where he had 400 stands, he lost over 3,000 hives last spring, and feels much discouraged with this year's work. I saw the man who wrote the article in THE AMERICAN BEE JOURNAL; all the men he mentioned are mad for his making the statements he did, saying he only told one side of the story. It is very costly getting started here, one must have at least $2,000 in gold after he gets here. They will not look at an extractor here; extracted honey from 3 to 5 cents and nice comb honey 15 to 16 cents. Harbison says his Italian bees averaged for the last five years, as follows: In 1870, 30 lbs.; 1871, 70 lbs.; 1872, 90 lbs.; 1873, 60 lbs.; 1874, 150 lbs.

"I would not advise you to come here; go to Texas, or anywhere else, rather than come here. Vegetables for family use are raised by a very few who have good wells to irrigate all the time. Not one bee-keeper in twenty has or can get water enough to raise what he can eat. They have tried fruit of all kinds, and yet I am told none succeed. Chickens seem to be rather plenty, but they are 75 cents each, and die off by the dozen in the summer. No one raises any hogs; they would eat their heads off with barley at 3 cents per pound. Potatoes are from 4 to 4½ cents per pound. Butter, 37½ cents; but nearly all they use comes from San Francisco.

"This country, like a blank corner of a checker board, is as near a desert as it can be and miss. If not that sheep and bees do well here, it would be utterly depopulated in two years. Two steam mills are here, and make little else but bee-hives and material for honey boxes. You can have the material all cut ready to nail for Harbison's hives for $1.80, Langstroth's for $2.25, and your style, which Bowman gets them to make, for the same. Their idea here is to get as much room for surplus honey as possible. They put on as many as eight sixteen-pound boxes at once. Nearly every one now has enough empty hives for next year's swarms. Some provide themselves with three new hives for each old one, and as not more than one hive in five have swarmed this year, they have the balance to carry over to next season, and as the expense in a large apiary is heavy, there is lots of dead capital. One can get all the bees he wants on shares. Dozens of men are at work for their board at the ranches, mostly invalids. G. F. M."

For the American Bee Journal.

Fertile Workers.

In "Notes and Queries" in July and August numbers of THE AMERICAN BEE JOURNAL, I saw a statement as to how to get rid of a fertile worker, in answer to a query of Stephen Hall, which is at variance with my experience (which is limited, however). I have had but two hives infested with fertile workers. One was in the summer of 1871. The hive became queenless by loss of the young queen after hatching, and before she commenced to lay. I allowed the worker to remain in the hive until her progeny commenced to hatch, without any attempt to supplant her. I then, as I had frequently before, attempted to find her in the combs, but failed. I then shook the bees from the combs, and "run" them five or six times over, but failed to find her. Before putting them back into the hive, I introduced a laying queen to them, by scenting with peppermint, and run them into the hive. The queen was accepted, and I had no more trouble with the fertile worker.

The other instance occurred about three weeks ago, in a hive that had swarmed, and the queen had hatched, for I saw her. When she should have been laying a few days, I opened the hive and found an *abundance* of eggs, ranging from one to one dozen in a cell, while some cells were empty. I examined the combs closely

and found the queen missing, but could not detect the egg layer. I at once inserted a queen cell, which hatched within 24 hours. She has become fertile, and is filling the combs with brood. The worker continued to deposit eggs, until about the time the queen commenced laying, but since then I do not see any of her eggs. I was able to distinguish her eggs from those deposited by the queen, as they are much smaller, and not one out of a dozen appeared to hatch. As these modes of supplanting a fertile worker are much more convenient than the plan suggested in the July number, and have succeeded quite as well as any other plan could, I give the bee fraternity the benefit of my experience.

Bees wintered poorly on their summer stands, but in-door wintering succeeded well here the past winter. Bees had no fruit blossoms this spring, hence the first honey was gathered from white clover, which was abundant; but about the time it was fairly in bloom, it commenced to rain, and has kept it up almost daily ever since, and while I write, it is pouring down for the eighth hour in succession. There can be no surplus unless the weather becomes more dry, although there is an abundance of blossoms in early fall plants. J. E. REIHIE.

Lima, O., August 1st, 1875.

For the American Bee Journal.

Alsike Clover.

Alsike or hybrid clover, which takes its name from the Alsike district, near Stockholm, we have sowed and tested for five years, and have found it superior to red clover. The root is fibrous and the heads globular. It bears a greater resemblance to the white than to the red clover. The advantage it has over other varieties, are that the frost does not affect it, and consequently can be sown on damp ground with good results. I have sowed some seed in a wet place, and at the same time sowed some red clover seed. I had plenty of Alsike clover but not one plant of red clover. From four to five pounds of seed is required for an acre when sowed clear; and about half that amount when sown with timothy. This clover makes finer and better hay than either white or red clover, for the stalks are not as thick and woody as those of red clover. It will remain green until after harvest, when it will be as white as timothy, and not turn black like red clover, when cut as late as timothy is, after being left standing until harvest. It can also be threshed with timothy, the seed easily separated, and also imparts a flavor to threshed timothy.

When allowed to ripen its seed, it cannot be cut more than one season, as it bears its seed with the first blossom in each year; but if it is grown for a hay crop, it can be cut again in the fall, and will yield a nice lot of fine hay for calves and sheep. It yields about one-third more seed to the acre.

Among its disadvantages may be reckoned its rank growth, rendering it liable to be lodged. D. N. KERN.

Shimersville, Lehigh Co., Pa.

For the American Bee Journal.

My Bees.

Perhaps you would like to hear about my bees. I have had a good many ups and downs, especially *downs*, in the pursuit; enough to have discouraged me from any other pursuit almost. At present I am not keeping bees under the most favorable circumstances, as I am sixty-seven miles distant from them. "Ah, yes!" say you, "some one takes care of them for you." Nothing of the kind. I do all that is done with them myself, except sometimes taking them out or putting them in the cellar, and—but first let me tell you some of my previous experience. After keeping bees for some years, at first with box hives, afterward with a kind of frame hive, having bought several stocks at different times (I didn't buy my first swarm), and having obtained honey enough to use on the table at a cost of—well, not over a dollar a pound,—I finally adopted the regular Langstroth hive. I believe this was in 1870, some nine years after getting my first swarm, and the same year I got a honey extractor. I began the season of 1870 with eight colonies increased to nineteen, and took about 400 pounds of honey. This warmed up my zeal considerably. In the winter I lost three stocks, so I commenced the season of 1871 with 16 stocks, took 408 pounds of honey, and the season being favorable, I increased without much difficulty, till I reached 30 or 40, and I thought it would be a nice thing to have an even 50, so I reached *about* that number, for so many of them were weak, that I am not sure exactly how many it would be fair to call them. I fed them some quite late, too late for them to seal over, and they were put in the cellar with little anxiety as to the result. In the winter they became quite uneasy, and on February 11th I took out five hives, which flew a little, and I put them back. They continued to become more uneasy and to be affected with dysentery, and on February 22, I took them all out and found only 23 alive. They flew a little, but it was not warm enough for a general cleaning; and soon after, there came a cold storm with snow a foot deep, and by April 1st, I had only three stocks living, two of which I united, making a total of *two* left from the 45 or 50. It was some comfort to know that nearly every person lost heavily the same winter.

I bought five stocks in box hives early in April, one of which died, making six stocks to begin the season. These I increased to nineteen, and I think I took no honey. With the number of empty combs I had on hand, there was nothing to exult over in this increase, especially as the stocks were not in the best conditon as to strength.

December 7th I put the bees in the cellar and cellar and house were locked up for the winter, myself and family spending the winter in Cincinnati, from which place we did not return till late the following May. A neighbor who was an old bee-keeper, took out the bees on March 31, in bad condition, and when I reached home in May, I found three stocks left of the nineteen with which to commence the season of 1873. From this time forward my business kept me in Chicago, with only a few days through the summer to see my bees, and in 1873 I increased the three to eight in fair condition, and took perhaps 60 pounds of honey. These eight were put into the cellar on November 10th, and December 10th my wife gave the cellar a good airing, and then closed up the house to spend the winter in the city. March 30th, 1874, I went out and took them out of winter quarters, and was delighted to find them in splendid condition, the whole eight alive, and hardly a teacupful of dead bees in all. These eight I increased to 22, taking 390 pounds of honey. Of course they were increased by artificial swarming. I attributed the previous winter's success partly to their having been taken in earlier than ever before, so I decided to take them in still earlier, and went out for that purpose on October 29th. But the bees decided they would *not* be taken in, and whenever I attempted to take them *in* they bolted *out*. So, like many others I had to give up and let them have their way, and left my wife to get them in when the weather was cool enough for *them*. On November 19th, they had a good fly, and November 20th they were taken in by Mr. P., who is a farmer with at least the average knowledge of bees, and Jeff, who is one of the liveliest specimens of the African race that ever jumped, with considerably more than the average fear of bees. On December 12th my wife gave the cellar a good airing and then it was closed up for the winter.

Last winter will long be remembered as an intensely cold winter, and I felt some anxiety about the bees The last of February my wife went out and warmed up the house and cellar, finding the bees somewhat uneasy, but after being warmed up they become quiet. Then the house was again closed up, and they were left till April 6th, when Mr. P. and Jeff took them out. Three of the 22 had died, leaving 19, and I had high hopes of what I would do this summer. I thought it would be best to increase them to about 40, as I intended to get two stocks from Adam Grimm, and thereby improve my stock, as some of my bees were nearly black. On May 10th these two stocks were received from Mr. Grimm, and May 27th I went out and saw my bees for the first time this year. I didn't find them very strong. Two of them had gone up from queenlessness, so I had 19 to begin the season with. I did not find them covered up in the very best manner—in fact, one of them had the cover on in such a way that the bees did not use the bottom entrance at all, but came out and went in at the top of the hive. I still adhered to my resolution not to increase to more than 40, as I wanted to be sure to have all strong; and as this would only be about doubling them, I thought best to spend their extra strength in getting a crop of honey and getting a second story filled with combs on most of the hives. Two weeks later, June 10th, I went out again, and was disappointed in not finding much gain in strength. A few of the strongest had gained, the others had not. I had taken the queens from the Grimm hives on my first visit, and expected to have plenty of queen cells, but found very few, and those not nice large ones. so that I only got two or three queens in all from this first operation.

Again, June 25th, on going out, I found some of the weakest colonies with less numbers than when taken out of the cellar, but they appeared to be working quite lively, and prospects began to look a little brighter for the season. In all my experience, no season up to the last of June had ever been so unpropitious.

My next and last visit was July 7th, and as I shall not be able again to go out till late in August, my study was to leave the bees in such shape as not to do any swarming during my absence. One swarm had come out a few days before, but as the queen's wings were clipped, they went back and there was no danger of their going off to stay, till a *young* queen was able to go with them. I had only made seven new colonies, and five of these had already laying queens. By taking away all honey and leaving three or more empty frames in the center of each hive, I could feel pretty sure there would not be much swarming. The frames of brood and comb taken from the center of the hives could be used to strengthen the young colonies and to put in the upper stories. Some three or four had already second stories on them and from these I expected a good yield of honey, but from some of the weaker ones I expected very little. In order to get along as fast as possible, I had a hand ready to do the uncapping, and Jeff was instructed to whirl the extractor, leaving me to get the frames out of the hives and put them back. When all was extracted I had a sum total of about *fifteen pounds!*

I never saw anything like it before. The bees seemed to be working busily, and strong with brood, compared with their condition of two weeks previous, but they seemed to be using up in brood-rearing all the honey they got, and in the whole lot I found only two hives in which they had sealed up any honey. Some of them had brood in only three or four frames and these needed no weakening, but I inserted an empty comb between two of their combs containing brood, to hasten their multiplication. Those that were strong I left with from three to seven empty frames, so that they might busy themselves building comb rather than swarming. In a few of them I found preparations for swarming and in one or two even sealed queen cells. I made use of these in making two new swarms, which made my total number 28, which was a considerable falling off from my intended number, 40. Still, I would rather have 28 strong stocks than 40 weak ones, and I could not hope to make them very strong if I should increase more. I would rather not have weakened them so much, but I was obliged to do so or I might lose half of them by swarming. Having put everything in shape, I left home on Saturday, July 10th, for the city, hoping the bees might behave well and give me some honey when next I visited them in August. B. LUNDERER.

For the American Bee Journal.

A Rectification.

In THE AMERICAN BEE JOURNAL for August, Mr. D. D. Palmer, writing about our queen business, says that those who wish an extra queen or stock may depend upon getting such by inclosing an extra dollar.

From the above, many bee-keepers would infer that we ask an extra dollar to send good queens and good stocks. Such is not the case. No second-rate queen, to our knowledge, is sent from our apiary. All the queens, imported or home-bred, which seem to be unfit for use are immediately killed; for what will not content ourselves, cannot satisfy others.

During the visit of our friend D. D. Palmer, we had to fill among many others the order of a bee-keeper who had sent us $18.00 instead of $15.00, to get an extra populous stock. Of course we did our best to satisfy him. This case (which is a very rare one) was, we doubt not the cause of what D. D. Palmer has written about the extra dollar.

Since we speak of our business, we will ask our patrons, when ordering imported queens, to specify if they want light queens, or if they prefer above all, prolificness. CH. DADANT & SON.

Hamilton, Ill.

For the American Bee Journal.

Warsaw Horticultural Society.

The July meeting was held at the residence of Chas. Dadant & Son, the extensive Bee Culturists, near Hamilton, President Hammond in the Chair.

The usual papers of correspondence and reports of the Agricultural Department was distributed.

Apples of last year's growth, and Early Harvest of this year, was presented by Capt. Hathaway.

Samples of Mammoth Cluster Raspberries by Mr. Dennis.

Mr. Gregg was on the books for an Essay, which he confined mostly to the subject of small fruits. He said he had grown some very small, as his neighbors could testify. He spoke of raspberries and strawberries as a paying crop; that the labor incident to corn culture was all that was required to attain a yield of one hundred bushels to the acre at the second years' growth.

Mr. Dennis was called on, he said he had no speech to make, but he would stand a cross-examination on the subject. Some one said there was an attorney present. Squire Ruggles said it was usual to have a retainer for such services. Mr. Dennis said the Miami and Mammoth Cluster are the same berry. The Everbearing is not so desirable a berry not ripening together like the Mammoth Cluster. Mr. Dennis admitted a yield corresponding with Mr. Gregg's estimate; he thought enriching the ground was an advantage in some cases. Mr. Porter said some of his had been frozen out on low gravelly bottoms; thought hill land and clay soils best suited. The Mammoth Cluster had done well; did not succeed with the Everbearing. J. T. Johnson said this class of small fruits indigenous to the country; grew in worn-out fields, and seemed to do well, which would indicate that manure was unnecessary. Gregg said different varieties required different treatment; he also spoke of shortening in the cane when two and a half feet high, they would branch out and yield double the quantity of fruit. Hathaway favored a timbered soil rich in vegetable mold for raspberries.

J. T. Johnson spoke of Horticulture in relation to the farm. That too much general farming interfered with success in any of the small fruit productions for profit; that for profit they must be made more of a specialty. He said Peach trees in his locality were worse root-killed than on the prairie.

G. P. Walker instanced peach trees, within the influence of liquid barn yard manure, killed worse than other places.

An adjournment was had for dinner.

The Messrs. Dadants are among the

whole-souled generous humanitarians, which showed itself in the ample preparations made for the accommodations of the company present. A rural dinner with all the *et ceteras* tempted the most fastidious appetite. They all ate, and drank, and were satisfied; and, in the happiness of the occasion Mr. Dadant invited the company down to the City of Bees, where a miniature city, with its thousands of industrious workers, gather the wasting sweets from nature's unlimited fields. Box after box was opened, showing the colonies at work in the movable comb system. The queen, the royal personage of the colony, was taken in hand and exhibited, one of each kind, pure Italian, natives and hybrid. The Italian worker bees were handled with the naked hand to show their docility and gentle disposition. These bees are preferred to the native for their hardiness, industry, and capacity to store more honey than the native bee. The Messrs. Dadants have four or five hundred colonies, about 200 of which are kept at home, the others at places of convenience for pasturage. They also exhibited the boxes in which queens are imported from Italy, from whence they have regular semi-monthly importations. Making bee culture a speciality, as they do, they are supposed to be scientifically acquainted with all that pertains to the honey bee in its relations to the apiary.

It is inferred from what was learned, that 200 stand of bees will find subsistence four miles apart; at this rate 800 stands would find subsistence in one township, six miles square; and, at a moderate estimate, would store 24.000 pounds of honey annually. Nine tenths of this liberal provision in nature is lost, which the reflective reader will readily perceive might be secured for the comfort and happiness of the people; but some would say good-bye to the small fruits if so many bees were kept. To the objection that bees injure fruits, it is alleged that they are a positive benefit, and do not puncture fruit, nor use it till punctured by other insects, or use the wasting exudation.

The meeting was called to order for an afternoon session. Hathaway inquired what plants and flowers were best for bees. Dadant said Buckwheat, Alsike, and White Clover, the Linden, Mustard, and fruit blossoms generally. As to bees puncturing fruit, he said he had tempted them with grapes, which they never used unless first punctured.

Mr. Brown spoke of evergreens. Some was injured the past winter. Mr. Walker said we must bear in mind the two winters past were unusual. Pres. Hammond said the mission of the society was to stimulate Horticultural products among the people; that more evergreens should be planted for ornamentation. The Norway spruce was among the best; Arbor Vitæ, although ragged naturally, bears shearing, and is ornamental.

The discussion on grapes was introduced. The Clinton was represented as not doing well, while the Delaware was in the ascendant, diametrically opposite to former experience; other varieties generally doing well with varying experience. Owing to the wet season, weeds had got the ascendency. Squire Ruggles thought his grapes were doing well without cultivation, as he did not like work. Mr. Porter was much in the same fix; his were well fruited; had managed to mow the weeds down.

The limits assigned for our report prevent giving other interesting remarks on various subjects by the members present. A resolution of thanks was adopted, expressing the Society's obligations to the Messrs. Dadants for their courtesy, liberality, and marked hospitality to the company present.

On motion the meeting adjourned to meet at E. McCune's, at such time in August as may suit.

B. WHITAKER, *Secretary.*

For the American Bee Journal.

Frame Making.

One of the thorns in the path of the woman who undertakes to master the theory and practice of bee-keeping, is her lack of natural or acquired ability to drive a nail straight, to use a saw with safety to the implement, or a sharp knife with safety to herself. The gifted few of whom this may not be true, constitute so small a fractional part of woman kind that they may be regarded, properly, as exceptions proving the rule. And the woman who begins to keep bees without having her attention directed to this matter, is in danger of suffering from vexation of spirit, and wounded fingers, many times during the course of her novitiate.

It seems a simple and an easy thing to make a frame, for instance. A woman who is both ambitious and economical will decide that she can easily manage for herself that part of the business. But let my experience be a warning—a warning at least, to those who have not mastered the A B C of carpentry.

When I set about building frames, the first unpleasant discovery I made was that all the lumber on the premises consisted of very long and very wide boards, varying from an inch to an inch and a half in thickness. My second unpleasant discovery was that the family saw was a large, clumsy implement, whose coarse and rusty teeth were much in need of the saw-filer's dentistry, and whose general character, when brought to the test, proved to be both weak and perverse. That is, it

would (in my hands) bend nearly double, and it could not be induced to follow a straight line. Of the family hammer I need not speak, for the Danbury *News* man has described it exactly, and the description has been in all the papers. Somewhat against my inclination—for, when it is quite as convenient, I like to be independent—I was forced to appeal to Richard for counsel and aid.

The counsel I received was this—to employ a carpenter. That was what he did, whenever he had anything to build of more importance than a hen-coop. It was folly to waste time in trying to do poorly what it was another man's business to do well.

I rejected the counsel on the spot, informing my adviser that I had too much consideration for my bees to make them pay for frames. I should, doubtless find trouble enough in keeping the credit and debtor sides of their account balanced for them, without indulging in such wasteful extravagance. If he would but be good enough to saw off some pieces of board, of manageable size, I should need no further help.

"But you will need to buy a finer saw, and a smaller and better hammer," said Richard, as he proceeded to do my bidding.

"Don't say that I will need to buy them! Don't you know that you need them! Do you suppose that I mean to charge my bees with saws and hammers, for lack of which you are actually suffering!"

Richard whistled—meaning thereby to express, as to the suffering, an incredulity too deep for utterance. But the next day he repented, and brought me the neatest of little saws and the prettiest of little hammers. I was wise enough to remind him, after expressing due satisfaction, that the saw and the hammer were *his*—"only as you are a little careless about such things, Richard, I will take care of them for you, and use them occasionally, to pay for the trouble." I have yet to learn that Richard has used either hammer or saw, save in my service.

After various attempts at shaving down and planing down—at dividing with the saw and splitting with the carving-knife, my pieces of inch board, I gave it up, and instituted another for better material. The lid of a flour-barrel tempted me; and, if I remember rightly, I succeeded in making one frame therefrom. Whoever does better than that must have patience and skill, of quality greatly superior to mine. Finally, I found an extra fine packing-box, made of good pine boards of just the right thickness. I troubled neither myself nor anybody else with idle questions as to whether or no the box might be useful for other purposes. To pull it to pieces, with the aid of chisel and hatchet, was an easy and a pleasant task.

By this time I had learned wisdom. I had added to my hammer and saw another necessary implement — a lead pencil. With the help of this, I ruled my boards into narrow strips, marked off the appropriate lengths, and bided by time.

The time in question was dinner-time. It happened, strangely enough, that though the summons to dinner was given that day in due season, the dinner was late. Richard, seeing that there was a mistake somewhere, and that an interval of waiting was before him, began to look about him for the last newspaper. Skillfully intercepting the paper, I handed him the saw instead, and pointed to my pile of penciled boards.

"While waiting, won't you please saw these strips? I know that you can do it better than I, and with less risk to the saw."

Richard accepted the saw good-naturedly enough, only shrugging his shoulders a little when Nellie laughingly reminded him how literally he was obeying Longfellow's injunction, to

"Learn to labor and to *wait*."

But for my own part, I am not sure but I was a little ashamed of my strategy. With some remorse I remembered how faithfully I had promised myself, long before, that in no event should my bees be allowed to trouble, either directly or indirectly, anybody but myself. I re-assured myself, however, by reflecting that the dinner was a little better worth waiting for than usual that day—a fact that Richard would be sure to appreciate.

I had said to myself that I should have no trouble in putting the pieces together. I could do *this* easy enough, surely. After dinner I proceeded to do it. But to my dismay, I found that the nails *would* split the ends of the side pieces, or they *would* go in obliquely. And, in fact, to simply hold the pieces together, at right angles with each other, was a serious matter over which I sighed so often, and so deeply, that Nellie—after advising me to hunt up an old geometry and refresh a little my knowledge of right angles—finally took pity and came to my assistance.

She held the pieces while I hammered, and the result was an improvement on my previous work. True, our first *square* frame was rather a *shumboid*, and hung in a tipsy, one-sided style, quite distressing to a person of regular habits and correct taste to look upon; but as we progressed we succeeded better. I must not omit to mention of the guide strips, for the putting in of these pleasantly relieved the monotony of the work. I tried sawing them out, whittling them out, and was not very successful either way. I tried to fasten them in with tacks, and failed completely. Then I tried glue, and finally I ambitiously attempted the sawing of a groove, into which the strips should exactly fit. But it didn't fit, and I could

only remedy the case with glue and let it go. By the time that, with Nellie's help, I had made fifteen frames, after this fashion, I was nearly ready to conclude that I had mistaken my vocation—that I was not cut out for a bee-keeper.

And yet, the frames were not *all* so very bad. But, estimating the value of our time very moderately indeed, they had cost more than I could afford to pay. The happy discovery that frames might be purchased either complete or in such shape as to be easily put together, came in time to relieve our perplexity and prevent an ignoble "giving up of the situation."

Nellie insists that the new frames are not faultless—that while, for certain reasons, she prefers them to our old frames, for certain other reasons she prefers the latter. Nevertheless, she agrees with me that it is hardly worth our while to go into the business of frame-making.

Neither can I advise any woman to do so who has not mechanical genius and plenty of good tools; or who has not a skillful carpenter—one who will work for nothing and board himself—at her command. Under any other circumstances, frame-making is, for a woman, neither interesting nor remunerative. Let her spare her gentle fingers for finer uses—as the sewing on of buttons—and buy her frames. CYULA LINSWIK.

For the American Bee Journal.

Wonderful Bees.—Their Habits, etc.

1st. Every hive of bees will give in honey a "profit of $20" when sold at wholesale prices.

2nd. The honey passes through a "churning process" as the bees are flying from the flowers to the hive.

3rd. By this operation of "churning" the honey is converted into "butter," which is the "pure white wax."

4th. What remains after the "butter" is secured is "buttermilk," but vulgar people call it honey.

5th. The "buttermilk" or honey is then put into cells and the longer it remains there the sweeter it gets.

6th. The honey extracts from "the comb" the virtues and sweetness it posesses when first taken from the flowers.

7th. The medical virtues of honey that has been in the comb for three years time, are three times that of honey only one year old.

8th. The body of the bee is composed of "three sections or bands."

9th. Underneath "the two front bands" there is a small hole on each side, through which the "butter" comes.

10th. Pollen is of more value to bees than honey, as it is their "principal" food during winter.

11th. The young bees live wholly on "pollen" until old enough to work.

12th. Bees obtain the pollen from the "petals" of flowers.

13th. The bee unloads the pollen first from one leg and then from the other as herein set forth.

14th. Bees hatch out a brood "every nine days."

15th. There are from "2,000 to 5,000" bees in each brood.

16th. The first brood that hatches in the spring is from "eggs laid late in the fall."

17th. Bees have the power of keeping the eggs from hatching, from fall to spring, and until they can gather "new pollen."

18th. When the hive becomes crowded a portion of the bees are "driven out," and this is "swarming."

19th. The drone has no sting, in which respect it is unlike "other male bees."

20th. Both "queen-cells" and drone-cells are "always made on the outer edge of the comb."

21st. The number of "queen-cells" in a hive is either three or five.

22d. The drones are "killed in the fall," and the "exact time" depends upon the "character of the winter" we are to have."

The foregoing ideas and statements are obtained from a two column article on pages 184 and 185 of THE AMERICAN BEE JOURNAL. They are not only *novel* but evidently *original* with the writer of the communication in question. We justify the publisher for not throwing the article into the waste basket. Had he done so the writer of the article referred to would have been as "mad as a wet hen," and, without a doubt, would have withdrawn his subscription! Besides, hosts of readers of the JOURNAL would have been deprived of "lots of fun," which has been worth more than the *space* the article occupies. But to make the "statements" more complete it really seems as though the following should be added:

23rd. The drones are working bees that have lost their *stings* and are suffering from *acute inflammation!!*

But we will now be serious for a few moments, and say, that, as we do not believe there is a solitary reader of THE AMERICAN BEE JOURNAL that endorses a single idea or statement in the list we have given, we will conclude with a few words of advice to the writer, whom we have tried fairly and faithfully to represent:

The very best thing for you to do is to procure a good reliable work on bees and then study the subject. Langstroth's is the best book we know of, and we think it will convince you that you know but very little about the Honey Bee, either its habits or instincts. Send $2.20 to the pub-

lisher of THE JOURNAL and he will gladly mail you the book, and it may prove to be the best investment you ever made.

M. M. BALDRIDGE.

St. Charles, Illinois.

My Experience with Italians.

I regret that I have so little new experience to add to your interesting columns. To have contributed anything of value to the general fund of knowledge, I should have kept a journal of my summer and spring work; a plan which every one who has sufficient leisure should adopt.

My 30 colonies were carried to their winter house about the 28th of November, and were removed again to their summer stands in the last week of March. The winter here, as elsewhere, was unusually severe, but they maintained the temperature at all times above freezing, except for two days, when it was found necessary to assist them by heated plates of old iron carried in twice a day. Fewer bees left the hive from distended abdomens than usual. This I attribute to the plan of giving no upward ventilation. The caps were removed, the summer entrances left wide open, and the quilts closely tucked over the frames. Heretofore I have given some upward ventilation, without as good results.

I placed one strong colony in a hot bed pit, which is mostly under ground, four feet deep, six wide, and twelve long. Although it wintered well, and came out strong and prosperous early in March, (at which time I was obliged to use the bed for early vegetables,) I cannot say the result was equal to my expectations, for whenever the pit was heated up enough to tempt the bees to make a purifying flight, they lingered so long in the warm rays of the sun, on the sashes, that they became chilled and lost, before darkness drove them back again to the hive.

I shall make another trial this winter, and add a muslin curtain to the underside of the sashes, according to the plan recommended by one of your correspondents. I shall also during *most* of the winter cover the sashes with matting to prevent too frequent flights.

I am glad to learn that Mr. Dadant proposes to procure for us the chromos issued by the Milanese society. He is entitled to our thanks for his disinterestedness in distributing them at cost. This reminds us of Mr. J. S. Coe's remark that an earnest progressive bee-keeper will, to his *utmost* power, forward the best interests of the fraternity. It has always seemed to me that the bee-fraternity constituted the fourth learned profession, and that all its members were, as in the other professions, entitled by courtesy, and the laws of brotherhood, to the best ideas and results of the researches of each one of its members; and that any one unwilling to acknowledge this, had mistaken his calling.

My queen of Dadant's importation, proved prolific; her drones, and workers, her queens and their progeny also proved dark enough to satisfy the most fastidious lover of the dark Italian. There was no trace of Albinoism. As for myself I must confess to the weakness of wanting my Italians with the three bands of uniform bright golden yellow, and so distinct as to be seen without fully distending the abdomen when the third ring seems to be a reflection of the second. But if the coming bee must be so dark as to be hardly distinguished from hybrids, in order to be most prolific and endowed with the highest and best instincts for gathering honey early and late and storing in boxes—why then I suppose I must sacrifice beauty to utility.

Take it on the whole, the season has been very poor so far, but enough stores have been gathered to induce a fair amount of swarming, and the colonies are now strong so that we *expect* during August and September, *our* usual honey months, to have an abundant harvest.

New Bedford, Mass. EDW. P. ABBE.

For the American Bee Journal.

Amende Honorable.—Errata.

Since my article on honey adulteration appeared in THE AMERICAN BEE JOURNAL, for August, I have received a note from Mr. Perrine in which he desires me to say that the "statement" respecting Mrs. Spaids was not made at his "suggestion." He says he regrets the intimation exceedingly, as he "hopes there is now no unpleasant feeling existing between us."

I give place to the above with pleasure, and will forthwith say that Mr. Perrine knew nothing about the preparation of the article in question, and that, in fact, we have not seen nor communicated with each other for the past six months; also, that no one, save the writer, is responsible for the statements and intimations found therein.

In justice to all, permit me to add that I have no desire to convey the idea that Mr. Perrine is the only first-class honey dealer in Chicago. Special mention was made of Mr. P. because it could not very well be avoided. Adam Kernberger, successor of Baumeister & Co., is likewise a first-class Chicago dealer in honey. I have frequently examined samples of the honey put up by Mr. K. and have always found them to be A No. 1. At present his trade is not so extensive as Perrine's but it is having a fine healthy growth. I judge him to be a straightforward business man

and that he will carry out as near as possible whatever he promises.

In my article on page 181, 4th line from the top, for "far better than the crude honey," insert "at least as good as the crude honey;" 19th line from bottom, same page, for "recurring" read "securing," and in the 8th line the words "may have been" for "might be," which will much better convey the meaning intended.

M. M. BALDRIDGE.

St. Charles, Illinois.

For the American Bee Journal.

Bees in Southern California.

A correspondent in San Diego county, California, says in the July issue of THE AMERICAN BEE JOURNAL, that bees in Harbison hives can be bought in Los Angeles county for $2.50 per colony; and, that the honey of said county is not salable "since San Diego honey came into market."

I spent the month of April last in Los Angeles county, visiting the "bee ranches," and collecting *facts* respecting bee-culture in Southern California, and can safely say that your correspondent is mistaken in both of the above statements.

During my visit, I found no bees for sale in Los Angeles county, in any kind of hive, or box, for $2.50 per colony. A few stocks of black bees, in box-hives, could be picked up now and then for $4 or $5 *in gold*, per colony. In fact, there were not many bees for sale at any price, as the swarming season and the honey harvest were near at hand. I found one man in an almost inaccessible canon, in great need of money, and he would sell for cash his apiary of 50 stocks for $3.50 each. These were black and hybrid bees, in the cheapest kind of box-hive. As he lived about 20 miles from "no where," it would cost about 50 cents more per colony to move them to some place where a white man would be willing to live. But the general price for black or hybrid bees ranged from $5 to $10 per colony, depending on the kind of hive they were in. I found another man who would sell *swarms* for $5 each in case the purchaser would furnish empty hives. Italian bees ranged from $15 to $25 per colony. While I was there, Mr. Harbison sold 50 stocks, that he called Italians, for $15 each, to a resident of Los Angeles city. As the purchaser had to pay the freight on them by steamer from San Diego to San Pedro, and thence by lighter and rail to Los Angeles, besides other incidental expenses, these bees must have cost him about $20 *in gold* per stock. As yet there are not many *pure* Italian bees in Los Angeles county.

The hives in use in Los Angeles county consist chiefly of box, Harbison, and Langstroth hives. Nearly all the new hives are the Langstroth. As made there they are more simple and less expensive than the Harbison, and are more generally preferred. I found only two or three parties who were making Harbison hives, and they will change to the Langstroth as soon as they get a little more experience in the management of bees.

The choicest honey in Los Angeles and San Diego counties is gathered mainly from the white sage, button sage and sumac, and, of course, does not vary materially in quality. In fact, all the mountain honey of San Diego, Los Angeles and San Bernardino counties is very similar, and it is simply nonsense for the bee-raisers of these three counties to be continually praising the good quality of the honey of their own county and speaking disparagingly of the honey in the adjoining counties. It indicates ignorance, or a contemptible jealousy, and is disgusting to the investigator who knows better.

A large per centage of the *valley* honey of Los Angeles county is of *poor* quality, but it is good enough for raising bees simply. This honey should never be sent away to market, as it will injure the general reputation of the Los Angeles county honey. M. M. BALDRIDGE.

St. Charles, Ill., July 26, 1875.

For the American Bee Journal.

Cultivation of Honey.

The article on this subject, by Mr. M. Baldridge, in THE AMERICAN BEE JOURNAL, for August, cannot remain without answer. The subject, in spite of Mr. Baldridge, is far from being exhausted, for it shows another side of the question, and not its less interesting side at that.

I am not, and have never been a partizan of Mr. H. A. King; yet I find that he has acted right in pointing out the ways and practices of the honey dealers.

Mr. Baldridge says: "The parties who make the handling (*i. e., the adulterating*) of honey their specialty, know better what their patrons desire than bee-keepers, and there is not the least danger of their "cutting their own throat" by selling a mixture that will ruin their business. It seems, also, that it is for their interest to sell an article that will give the best possible satisfaction. I have often seen Perrine's honey. I know it gives better satisfaction than the crude honey sold by the honey raisers. His honey is milder in flavor."

Now let us suppose that Mr. Baldridge sends me ten dollars to get an imported queen, and that, knowing the predilection of Mr. Baldridge for the yellowest queen, I send him a yellow queen of my own raising, instead of one of those imported,

which are generally darker than the home-bred queens; no doubt Mr. Baldridge would be very well satisfied with my bogus imported queen, and there would be no danger of "cutting my own throat." But does Mr. Baldridge think that it would not be cheating him by selling for ten dollars, under false pretense, a queen worth half that price.

The selling of three-fourths syrup mixed with one-fourth honey, which mixture is worth eight or nine cents, as pure honey, worth fifteen cents, is therefore a dishonest practice, whatever any American Baldridge can say in behalf of it.

Now another side of the question. For a great many years the American honey dealers have mixed honey with some other sweets. As they need honey for these mixture, they buy early in the season all the honey they need. Let us suppose that a honey dealer buys one hundred thousand pounds of honey; he mixes it with three hundred thousand pounds of some kind of syrup, molasses or glucose, and makes four hundred thousand pounds. Now these three hundred thousand pounds of created honey come in competition with the pure honey remaining in the hands of the producers, and hinders or prevents its sale, the more so because the honey dealer has a margin of seven or eight cents per pound to help its sale.

Thus the honey dealers glut the market. Woe to the poor bee keeper who, after Christmas has some pure honey on hand! he is sure of being a loser; for the profit of the honey adulterers always incite them to produce more than the wants of the country.

Mr. Baldridge continues his argumentation, saying that, as the consumers want liquid honey, and as the pure honey will candy, the best friends of the bee-keeper will say that he has sugared his honey.

How is it that in this country, *and in this country only*, candied honey is sold as adulterated, and liquid honey is sold as pure? This belief comes certainly from the honey dealers who have, year after year, infused these erroneous ideas into the minds of American people. Therefore it was not enough for them to sell adulterated honey, it was necessary also to accuse the honest bee-keeper of selling a falsified article. After cheating the consumer, they accuse the honest men of cheating.

Now, adds Mr. B., "no one can properly censure a dealer who caters to the wishes of his patrons, provided he uses nothing that injures their health." Is not such a practice cheating? In France—in immoral France as our friend Dr. Rush would say—if any one is convicted of having mixed other substances with an article sold as pure, even when these substances are unobnoxious, the product is destroyed, and the adulterator heavily fined.

I have seen 40 barrels of wine poured in the street gutter because the dealer had mixed with his wine apple juice, sugar and tartaric acid, to increase its quantity; yet this wine was very good—good for health also. But the fault was, it was sold as pure wine, and the dealer was cheating the public and doing great damage to the wine producers.

Is not that the case with our honey dealers? I suppose that all the bee-keepers of America, Mr. B. not excepted, will find that the French law is right, for there are not two morals, one for old Europe and another for this side of the Atlantic.

Let us now examine the question from another stand point.

Everybody knows that honey is used in medicine for its laxative properties. It is also used for coughs, sore throat, hemorrhage, etc. Honey is emollient, sugar is tonic. Now all the druggists who buy their honey from the honey dealers, are cheated; they cheat their customers without knowing it, and they endanger their health and their lives by selling a tonic, (sugar syrup), instead of a laxative and emollient (honey), as prescribed by the doctors.

But who of our honey dealers has ever thought of that? To fill their pockets by satisfying their patrons is not enough!

Now for the remedy.

I have seen in Europe, honey from Cuba, from Chili, from Germany, from Italy, from France, all was granulated. I have kept bees in this country for 12 years, and always my honey has granulated. All the bee-keepers of this country acknowledge now that all pure honey granulates sooner or later. That of Mr. Baldridge does not always granulate; he could perhaps give us the reason why; but I do not ask for such a confession. The candying of honey is therefore, as I have said in my first article on this topic, the best test of its purity. Let us all have this fact known everywhere; spread this knowledge in all the bee and agricultural papers; let the granger and bee-keeper send circulars at that effect. Yet as this knowledge would be slow in reaching all the consumers, let us all try another means of avenging our honor and of breaking down this dishonest traffic.

Let every bee-keeper having some extracted honey to sell, make two qualities, one pure at full price, another adulterated (or dealer honey,) at discount.

We can figure the cost of this article, making it even better than the best dealer honey in the market.

100 lbs. white sugar at 11 cents	$11.00
50 lbs. honey at 13 cents	6.50
50 lbs. water	
200 lbs.	Cost, $17.50

Or 8¾ cents a pound.

I figure the honey at 13 cents; Mr. A.

Grimm sold his last year at 12 cents; and if sometime the honey dealers pay 15 cents, they bring in account so much leakage, that the net price rarely attains 13 cents.

We put the water in a boiler, and stir the sugar and the honey in on a slow fire, and it is done.

We can offer this dealer honey at 9 cents, under labels indicating that it is dealer honey, *i. e.*, honey prepared in the dealers' fashion; adding that such honey does not granulate. We can even put the recipe on our labels. If I could cause a great many bee-keepers to offer this stuff to all the grocers of their cities, honey dealers would be forced to change their practice, or quit the business.

I for one, will try this method; who will do the same? CH. DADANT.

Hamilton, Ill., August 5, 1875.

For the American Bee Journal.

My First Italian Swarm.

Like many others, who have interested themselves with the honey-bee for profit on the singular interest and fascination attached thereto, I have indulged in the fancy of keeping bees. In the incipiency of my operations, natives were my pleasure, but with the spread of books, papers, improved hives and general progress, blacks did not suffice.

A costly and beautiful colony of *pure* Italians was obtained, and the first season sedulously watched, divided after the mode, and otherwise treated with the utmost concern, and I had the satisfaction of increase and success. The hive in which the original queen reigned, had been amply protected through the winter, and with the opening of spring, the stock was very promising.

I had delayed until May was far advanced for a friend to come and assist in making a division; but the weather not being favorable, the work was delayed until further delay was unadvisable, and I determined to swarm the bees alone the first suitable time. A fine day appeared, and noon was chosen for the anticipated work, but the clock had scarcely ceased striking twelve, when the cry of "yellow bees swarming" was raised. The day was bright and lovely, and my first impulse was to seize a looking-glass and bring it to bear on the issuing swarm. At first a large oak was threatened, but the glass was too much for the bees, then a small box elder, a peach tree, and at last they settled on some low shrubbery beneath.

A hive had been duly prepared for an emergency, with full frames of comb, partly containing cells of unsealed honey and dripping to the bottom board. I gently raised the spray on which the bees had clustered, spread a sheet very nicely, placed the hive in position, shook the bees down and directed them to the entrance. All working well, but the most labored plans are sometimes attended with difficulty. Other bees, attracted by the honey, collected about the hive in countless numbers, and I feared would take possession, many of them going in with the swarm; yet singularly enough, the swarms, at the same time, fighting and vigorously disputing the entrance. I, being satisfied that the queen and most of the swarm were inside, gradually closed the hive, showered the outsiders with a fine rose sprinkler, shifted the hive to a new place, spread a sheet over it, which I completely saturated with cold water, and with closed entrance, moved the hive to a cool shady stand and then opened the entrance gradually, and soon had the satisfaction of seeing the inmates taking good care of themselves and their new home, expelling the intruders and keeping them at a respectful distance, myself not escaping their regard.

Another inspection disclosed the secret of the fighting propensity of the swarm. My *elegant Italians had become splendid hybrids!* ALSIKE.

For the American Bee Journal.

From "Amateur."

DEAR JOURNAL: You need not apprehend any danger of the market being overstocked with honey from California, as there will not be more than a half crop here this year. I have done as well or better than any other apiarian in Los Angeles, Cal., and I have only taken up to this date (Aug. 1st,) 15,400 lbs. from my apiary, a little over 100 lbs. per hive. I hope to take a good deal more this fall from honey-dew. I understand that Mr. Harbison will make about a half crop. There are a great many apiarians here who know but little of the "science of bee-keeping," and consequently they fail to secure much surplus in a poor season. We need more scientific bee-men here. The greatest resource of Southern California is its honey-producing interests, and this has but just commenced its development. Although there are but few locations not taken up, yet those already taken up need scientific apiarians to improve them, and bring this profession up to the standard.

There is but little difference in Santa Barbara, Los Angeles or San Diego counties, your correspondent from San Bernardino to the contrary notwithstanding. He is very unjust in saying that "Los Angeles honey is not worth much on the market since San Diego honey came into market." San Diego produces more nice honey than any other county, owing to the fact that Mr. Harbison and several other scientific bee-men, have been there several years, and elevated the business

to a much higher standard than it has been in this and other counties. But we have turned the whole business "up side down" in the south end of this country, this season; and another season we will show the people of Southern California a thing or two about bees.

Much has been said in THE AMERICAN JOURNAL about the standard hive. This is all nonsense. A hive that is just right for a cold climate is *not* the hive for a warm climate. Mr. Harbison invented his great "California hive" upon his experience in Pennsylvania, and in shape it is just like the American, which is good for a cold country; but my experience in transferring a great many bees from the Harbison hives that had been occupied by bees for several years, shows that the combs above the cross bar in frames, or the upper six inches of the comb, had never been occupied by brood, or in very few cases; the brood for the whole time having been raised in the lower 8 inches. There is but little need of honey in the hive for bees to winter on here, and consequently *no* need for a deep frame. 8 or 9 inches deep I think is plenty as the bees have a shorter distance to travel to reach the surplus honey receptacle. I have been trying both the long hive, and the two story hive, and my experience this season in this climate teaches me that the greater amount of honey can be procured by using a hive 12½ inches wide, with 9 frames below, and 8 above. My frames are 15x9½ inches. By using only 8 frames to 12½ inches, gives room for the bees to lengthen the cells, thereby causing the combs to hold much more honey. We extract every week and take about 30 lbs. each time. This season has not been a good one.

Probably the readers of THE JOURNAL would like to know Amateur's plan for dividing. It is this:

Have the bees *very strong* by time for surplus honey. And when there are an abundance of flowers, and bees are gathering large quantities of honey—have queen-cells enough for all the new swarms you want—when queen-cells are ready to transfer, remove the old queen with three combs and what bees cling to them from each of your strong stocks into a new hive and put on a new stand. As these nuclei have a laying queen and a good many bees, they will soon need empty frames which you will add as needed. These nuclei will need no further help to make good strong colonies by the close of season. The next day after removing the old queen, you will introduce a queen-cell into each hive and in a short time the old swarm will have a new queen. The advantage of removing the old queen from the hive, is that the bees will gather and store about double the amount of honey while rearing a queen, than when they have a laying queen. By emptying with the extractor, the young queen will have plenty of room to deposit eggs, and will soon have the hive filled when the same process can be repeated. I think this a very valuable plan because the greatest yield of honey can be procured from a queenless colony—as long at there are plenty of workers.

Well satisfied with past success and full of hope for the future, I am, as ever, an

AMATEUR.

Westminster, Cal.

For the American Bee Journal.

Feed the Bees.

Bees in some districts of the country will have to be fed or they will strave. I give the readers of THE JOURNAL my plan of feeding, which they may follow if they choose. Take clarified sugar, (Coffee A will answer), add sufficient soft water to make a syrup about the consistency of extracted honey; bring to a boil; when cool it is ready to feed. If regular bee feeders are not at hand, glass tumblers will answer. Fill nearly full of syrup; tie a piece of muslin over the mouth of the tumbler; turn bottom up; place them on the frame immediately over the bees, and they will soon store the syrup in the combs; and cap it over. The bees should be fed as rapidly as possible, until they have enough to winter. The best time to feed is just at sunset, to prevent robbing. If tumblers are used, place on as many as possible, so as to get through feeding in a short time. If they are fed sparingly they will consume much more. See that the tumblers, or feed, is covered perfectly tight, so that the robbers will not discover it. Weak colonies should have the entrance closed, so that but one or two bees can pass it at one time, to prevent robbing. The latter part of September and first part of October is the proper time to feed, for wintering. It is a shame to let bees starve when they are so easily and quickly fed.

A. BENEDICT.

Bennington, O.

For the American Bee Journal.

Exchanging Brood Combs.

It was formerly my custom, when extracting honey, to exchange half the combs of every hive with the same number in the next hive opened. This was done merely for convenience, and in order to save time and get each hive closed as soon as possible. Observation convinced me that the bees removed nearly or quite all of the eggs from the strange combs, and sometimes they destroyed part of the very young larvæ. In an apiary of forty hives in which the combs

were exchanged, two and three times there must have been a loss of several swarms. The destruction of the larvæ was a much greater loss than the destruction of the eggs, because the queen, having plenty of room, could supply the empty combs with eggs very soon after they were extracted. But the eggs laid after exchanging combs would not hatch so soon as those destroyed would have done, and a loss of time would result; and in the extracting season, that means loss of bees.

In extracting I now have two hives open at once in order to work fast and return each comb to its proper hive, thus: Hive No. 1 is opened and half the combs taken to the extractor, the comb carrier then opens hive No. 2 and by the time he gets to the extractor with that lot the first combs are empty and ready to be exchanged for the full ones in No. 1. One more trip to No. 2, then No. 1 is closed and No. 3 opened.

A piece of cotton cloth is used to cover the hive while the combs are being extracted. One man to uncap and extract will keep two busy carrying combs, if the combs are straight and in good order. It facilitates matters somewhat to have the extractor to run with a treadle instead of crank handle. W. C. P.

August, 1875.

Notes AND Queries

ANSWERS BY MRS. TUPPER.

Please tell your readers the best method of securing straight worker surplus comb. A. A.

We have ourselves had no trouble in securing straight combs, invariably, so do not, perhaps, appreciate the trouble some have experienced. We are careful, when colonies are building comb, to examine often, and if they are starting in a wrong direction, to straighten at once. Of late, since we have a good supply on hand, we always put an empty frame between two straight worker combs when bees are building, and they then cannot, if they wish, build crooked.

Bees only build drone combs (as a rule we mean) about swarming time, or when honey is very abundant, and at these times we would try and keep them supplied with comb so they shall build none, leaving comb-building to be done later in the season, when honey is less plenty. We can generally secure some comb almost any time by removing a comb from the middle of a strong colony and putting a empty frame there. Bees "abhor a vacuum," and work with a will to fill it. We are very sanguine that the comb foundations are going to prove a great success, and aid those beginning in the business to get straight combs fast. A device just patented in Vinton, Iowa, makes the building of straight combs sure, when the patented frame is used. We are expecting to see this frame advertised and used with profit.

I would like to hear through the columns of THE AMERICAN BEE JOURNAL when is the best time to move bees a short distance. I have one colony of bees that is very strong, but do not seem to be doing anything at all. Can you tell me what is the matter? Do you think it best to feed at this season of the year? My bees are getting plenty of pollen, but not much honey. I had four colonies of Italians this spring and have increased to ten, but I have not a taste of honey yet.

Would you recommend dividing if you have no queen on hand? I tried one this spring; it is doing fully as well as those that swarmed naturally. I do not know whether the plan would do to rely on or not. The keeping of bees is a new thing to me. I got my start from Mr. Quinby. I am very sorry to hear through the columns of THE JOURNAL of his death. I am under obligations to him for what little knowledge of bee culture I have.

Can you tell me the reason of my bees leaving the hive after being hived? I have never had one to stay the first time; my first swarm left the hive and went to the woods. I found them and brought them back. This thing of natural swarming is discouraging to me. I want to divide after this, if I can. B. LINGLE.

Paoli, Indiana.

The best time to move bees a short distance is after the working season is over, or before it commences, that is, if by a "short distance" you mean less than half a mile, further than that you can move at one time as well as another. When moved a short distance, many of the old bees will return to the old spot—sometimes enough of them to weaken the colony seriously.

We feed at any season of the year when the bees are not gathering enough to keep them breeding freely.

By your own account your bees must have gathered much honey, even if you "have not had a taste yet." They cannot increase from four to ten colonies in two

months without using a large amount of honey in rearing brood and filling their hives. If the whole ten fill up well with bees and stores for winter, you ought to feel you have done well.

We would divide, even if we had no queens on hand, though it is a great help to them to be saved the time wasted in queen rearing.

There are various causes for bees leaving their hives after swarming. The best way to prevent it, is always to give them a comb with young brood from another hive in the new one. It is better in every way to divide than to trust to natural swarming.

As I have been keeping bees but about one year, I wish to ask a few questions relative to the conduct of some of my pets. On May 6th had a swarm, hived them, and they appeared to do well; in fact, did very well for a time. On July 8th, I looked into the hive and found it queenless, without queen-cells, and, strangest of all, the unsealed brood dead, but the sealed alive. I could discover no odor arising from the dead brood. What was the matter?

About the middle of May, in passing a hive about 7 A. M., I noticed about a pint of dead and dying bees, and they were still bringing them out. Among them I found a queen; I think she belonged to that hive, and if so, was raised last year. I searched the hive, but could find no queen, but found new brood in all stages. I have extracted 85 lbs. and took 35 lbs. box honey, which sold readily at 20 and 25 cents per pound. I commenced this spring with 8 stocks, one of which was weak and queenless. I have had but one swarm and have made but one artificially. They are gathering but little now. I have had but one colony to work in boxes. I shall be glad to have answers through THE JOURNAL. I, with all others engaged in progressive bee culture, deeply feel and deplore our loss in the death of Mr. Quinby.

Nashville, Tenn. J. G. STREET.

We judge that your bees had not enough honey, and could not nourish the brood. It looks to us as if the queen had left with a few of her subjects, discouraged at the want of provender.

Strange as it may seem, bees *do* suffer sometimes in June and July for want of honey. Probably a few pounds of sugar fed to them would have saved them.

We can give no other reason for the condition of the other hive, found in May than this—of poverty. If they had plenty of honey, we *could* see no reason for the state you found them in.

Complaints of the poor season come from many quarters.

Please inform me through your valuable BEE JOURNAL the object of having a hole on each side of Langstroth's hive? Should they be open or shut while the bees are working?

Do bees fill the top or bottom with honey first?

How many pounds can I take from a hive in a year?

Can you change the boxes more than once?

Do you prefer large or small boxes?

Will this summer's bees swarm this fall? C. A. J.

We do not think there is any use for the holes you speak of, except to give ventilation when bees are being moved some distance. They should be shut always when the bees are at work.

Bees, as a rule, fill the top of the hive first. They seem disposed to put their choicest honey as far from the entrance as possible.

No rule can be given as to how houm honey can be taken in boxes in a season. We have taken nearly 200 lbs. of box honey from one hive, but then again we have many times failed to get a pound stored in boxes.

Small boxes sell the best; but on the whole we think the bees work better in larger ones. Cases with small frames in them are better than boxes.

Bees do sometimes swarm as late as last of August, but not usually.

I have been troubled several seasons with queens deserting their hives; so much so that I have found the work of Italianizing my apiary greatly retarded. Full blood Italians have worked well for a while and suddenly disappeared; half breeds the same, but I do not recollect of any black ones doing so. Sometimes they take a few workers with them, but in no case a regular swarm. In every case their is plenty of empty comb, brood, and honey, and often the deserted colony raises a crop of queen cells, and the queens, when picked up in different parts of the apiary and put into nuclei or queenless colonies, often do fair, not first-rate. In some cases there is a want of bee bread, but in June I think that need not matter. What is the cause? A. W.

We can give no idea of the cause of this desertion of the hive by the queens. We

have heard similar complaints from other causes. In some cases the queens have disappeared without any cause; and, it would seem, have died.

If any reader has any ideas upon this matter, we would be glad to hear from them.

We have had more queens die this season than in all our former experience, but have no idea of the cause.

What am I to do with my bees—and what will *they* do all winter? This is the condition of things. Hives full of bees, combs full of brood, but *no* honey anywhere in the hives. Have not had a pound of surplus. Had three hives in spring—have now thirteen—and all doing well, except that they have nothing to live on. E. E.

Benton Co., Iowa.

You are one of the many who do not realize that bees are fed and raised on honey. You complain that there is no honey, has been none, and yet many hundred pounds *must* have been gathered by your bees to fill hives and stock them. An increase from three to thirteen is enormous for one season, and your locality must have been much better for honey than any other we hear from, to secure it. You need not expect surplus honey, but if your bees are as strong as you think, they will gather no doubt much for winter stores until frost. After that you may have to feed some to keep all your hives over. But you can well afford it. Don't be of that number that expect to eat their cake and keep it too. In what other business can you find so large a profit as you have already secured?

You can wait until next year for surplus honey.

How will I know when my bees are under a fertile worker? I have three hives; one a nucleus framed early in June. They seem to turn out all drones, have eggs, but I can find no queen. Have given them more young brood. What next? J. W. Baylor.

Sharpsburg, Texas.

Your hive may have a drone-laying or unfertilized queen. If that is the case you can find her easily. If not, then be sure a fertile worker has possession. You will find several ways to treat her, given in the back numbers of The Journal. It is possible the bees may rear a queen from the brood you have given them, but in most cases they seem perfectly contented with the laying worker.

Prevention is easier than cure in these cases.

Nuclei, and all hives rearing queens, should be examined about the time the young queen ought to lay, every day or two; and bread supplied them so that if anything happens to the young queen, they can rear another. Fertile workers do not appear until a colony has been queenless sometime.

Please advise me of your theory about bees hanging outside of bee hives and not swarming when there is plenty of bees to make two or three swarms.

Corydon, Iowa. W. W. Wright.

We judge that there is no honey for them to gather. Bees do not swarm, as a rule, when there is nothing for them to fill another hive with. If there is plenty of honey, and bees hang about idly, we divide them and set them at work filling another hive. A very good way to do that, when many are outside the hive, is to put a comb or two of brood into an empty hive (a queen cell too, if you have it), then brush all the bees off the outside of the hive quickly and remove the hive itself a few yards away—setting the new hive there. The bees thus brushed off will go into it without trouble and do well.

Those expecting queens from us, and also those who have ordered from others, must have patience, this year. All who are rearing queens have had many difficulties to contend with. First, cold spring weather, when nothing could be done with nucleii; then wet weather, so that young queens could not fly safely, and many were lost. Until the middle of July it was literally impossible to make progress with queen rearing. Things are favorable now, and just as fast as possible queens are being sent out. If this weather continues all our orders will be filled by the the time this number reaches our readers. E. S. Tupper.

Send for our New Price List of hives, bees, queens, extractors, and all apiarian supplies, to Italian Bee Company, Des Moines, Iowa.

American Bee Journal.

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Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue.

☞ Parties desiring either Langstroth's or Quinby's Works on Bee-Keeping can get them at this office; but, as the late Congress doubled the rate of Postage formerly paid—those ordering should enclose twenty cents each for postage.

GERMAN BEE STING CURE.—A drop or two will remove all trace and effect of a sting in a very few minutes. It costs $1.00 per bottle; one bottle will last a life time. It is free from all poison, and may be successfully used for all insect bites. Can be sent only by Express. For sale at this Office.

☞ Special Notice. ☜

During the past winter and spring the general cry has been: "Hard times, please wait a little while for our subscription." In consequence, our receipts have been light, while our expenses have not been lessened.

We have cheerfully "carried" thousands of our subscribers, and now trust that they will respond as soon as possible, as we have obligations that must be met *at once.* Many subscriptions ran out with the JUNE number, but we hope to hear from them NOW, as well as from those that expired before that time.

We shall continue to send THE AMERICAN BEE JOURNAL to all our subscribers until we get an explicit order from them for a discontinuance, and we hope those who do not wish to continue their subscriptions will notify us by letter or postal card either when they expire or before that time.

We ask those who are in arrears to send us the amounts due or at least a part of them, during this month, as THE AMERICAN BEE JOURNAL greatly needs these amounts to ensure its continued prosperity. Address

THOMAS G. NEWMAN,
196 and 198 S. Clark St., Chicago, Ill.

☞ A subscriber wishes to know where to get a catalogue of the "American Pomological Society." It can be obtained of the Secretary, W. C. Flagg, Moro, Ill.

☞ The Bank of California suspended on Thursday last. It was caused by reckless speculations; and Ralston, its president, committed suicide by drowning himself.

☞ The Club Rate for THE AMERICAN BEE JOURNAL and *Gleanings* will hereafter be $2.50 per year.

☞ THE SOUTHERN KENTUCKY BEE KEEPERS' CONVENTION will meet in Burksville, Cumberland Co., Ky., on the third Wednesday in September next (Sept. 15th), at 10 o'clock, A. M. All persons interested in bee-keeping are invited to be present.

N. P. ALLEN, *President.*

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, OCTOBER, 1875. No. 10.

Seasonable Hints.

From all parts of the West we receive reports of great yields of honey during the latter part of August and September. If care has been taken to use the extractor, and thus give the queen room, brood will have been reared until frost, and the hives will now be well supplied with young bees.

If, on the contrary, the queen has had little or no room for her eggs, the colony may be heavy with honey and yet have few bees—too few for safety. Such colonies should have, if possible, a comb or two of hatching bees given them from other hives more fortunate.

All supers and surplus boxes must be taken off after the first killing frost, and at that time we always put on our quilts, carpets or mats. Especially if the colonies are weak in bees is this an advantage; for it keeps the bees more comfortable. All entrances to hives should be made small and the bees disturbed as little as possible.

There is no danger from robbing in the fall, if bees are not left with entrances exposed, and broken honey where the bees smell it.

A season of rest seems to come to bees after severe frost; they fly out but seldom and are not eager to gather as they are in the spring.

If you have colonies which must be fed, do it now, that the honey or syrup may be taken when the bees need it before the weather is too cold. Give no more syrup (if that is to be fed,) than they can carry into the hive while it is luke-warm. We believe many bees are killed by taking cold syrup into their honey sacs. It is unnatural, as honey is always luke-warm when taken from the blossom. If you have given more than they take soon, remove it and feed the next day after warming it.

Later than this month we would not feed. It is better to break up or unite weak colonies, if you have any; remembering that one good strong one is worth more than any number of weak ones, at this time of the year.

If, however, you have hives full of comb with plenty of bees and a good prolific queen, even, if they have too little honey for safety, you can give them a few pounds of sugar made into a syrup, and they will winter quite as well or better than on honey.

E. S. T.

The Centennial.

It is absolutely essential that all who intend to exhibit anything at the Centennial should make immediate application to the committee, that they may know definitely how much space to secure.

Many who have written to me about it have given no idea of the bulk of articles to be exhibited, or their final decision what to send.

If we hear soon we can secure all the space necessary, but if the matter is delayed we shall not be able to secure space.

We hope that all will remember, that choice specimens of honey must be saved *this* fall, if to be exhibited. A number have written that they were securing honey in fancy shapes. We hope they will keep them.

Unless we make special arrangements to bring in honey as it is made, after the opening—as will be done in the case of perishable fruits, all the honey to be exhibited is already made. Let it be preserved with care, until needed.

Applications may be made at once to Mrs. Tupper, Des Moines, Secretary for Iowa exhibitors, and member of the National committee; or to S. Hoagland, Mercer, Pa.; or J. M. Winder, Cincinnati.

E. S. T.

Bee Report From Italy.

In a letter just received from COUNT ALFONSO VISCONTI DI SALICETO, of *The Journal l'Apicolore*, at Milan, Italy, he says: "Before closing my letter, allow me, Sir, to give you a few items of news concerning bee culture in Italy.

"As I told you in my last letter we have had great mortality among our bees, especially the common box ones. Spring came on very late, but it proceeded regularly, and the bee hives gained very much, so much so that in a very short time they were completely filled with honey. The swarming was, however, delayed, and was very poor indeed. Although the summer has been rather stormy our bees were able to make a considerable plunder, and from some bee hives we have already extracted from 15 to 20 chilogr. of honey, and hope to extract the same quantity in September. I speak however, of hives belonging to national bee-keepers. Bee culture is here gradually improving and the number of national bee-keepers enlarges more and more. Even the use of honey, which was once confined to commerce, is now considerably increasing, and in our families the custom of eating honey spreads very fast. All this is the consequence of the improvements of systems which regard cultivation as well as extraction.

"With my best compliments I have the honor to subscribe,

COUNT ALFONSO VISCONTI DI SALICETO.

We have received the following from the editor of the *Journal l' Apicoltore*, at Milan, Italy. It will be interesting to many of our readers:

HONORED SIR:—At the Editorial Rooms of the *Journal l' Apicoltore* there has been established a commission office for the purchase and sale of Italian queens, wax, honey, honey-comb, empty framed honey-combs, of the official measure, books, journals and every thing connected with bee culture.

The expenses of forwarding and packing are chargeable to the employer. Address: *To the Commissional Office at the Journal l' Apicoltore, Milan, 38 Tomaso street, Italy.*

The want generally felt of finding easy sale for the productions of bees, and likewise of knowing where to address in order to purchase, will obtain the approval and assistance of bee-keepers to this Commissional Office.

Another Race of the Bees.

A "Country Doctor" in the *British Bee Journal* remarks as follows concerning another race of bees, which are great swarmers:

"In Lunenburgh, Oldenburgh, etc.," says the Baron von Berlepsch, "is a bee which in formation of body and in color, that is zoologically considered, is identical with the ordinary kind, but which has certain peculiarities so marked, that it must be looked upon as a distinct race.

"1. A population with a queen of the current year builds as a rule some drone-comb, and often much.

"2. A queen of the current year lays drone eggs as a rule, and sometimes in considerable numbers.

"3. A queen of the current year often leads off a swarm.

"4. A fruitful queen of any age often leads off a swarm, although the stock is not fully filled with comb.

"5. The swarming impulse is so strong, that a rational management is thereby rendered very difficult.

"6. The building of drone-comb and the breeding of drones is so mischievous, that a rational management is thereby rendered very difficult."

☞ A correspondent desires that we request those who obtain the large yields of honey, whose apiary contains over 10 hives, to send a letter for publication in THE AMERICAN BEE JOURNAL, describing their management, so that other bee-keepers may compare notes. We shall be glad to have them do so.

☞ An article was copied into our last issue from *The Prairie Farmer*, but by an oversight our regular electrotype heading (For the American Bee Journal) was placed over the heading, and the credit omitted. *The Prairie Farmer* notes this lack of credit under the insulting heading of "It steals;" we would not be so contemptible as to return the compliment, should the opportunity be presented—for mistakes will happen in the very best of offices. "*Honi soit qui mal y pense.*"

A CORRECTION.—On page 199 of the September number, G. F. M. said that Mr. Harbison had lost 3,000 stands of bees during the Spring. He informs us that he has since learned that it was a mistake, but we did not get it in time to prevent the statement in the September issue. So we now correct it.

☞ On account of the large space being given to Bee Reports for 1875, in this number of THE JOURNAL, many valuable articles are omitted, which were intended for this issue. They will appear in our next.

Foreign Notes.

The Division and Subsequent Reunion of Stocks.

BY HERR GRAVENHORST.

Every bee-keeper who is only moderately observant knows that however pleasant swarming may be sometimes, under certain circumstances, it only takes place to his disadvantage; as, for instance, with stocks that have already furnished first swarms or scions, and with first swarms and scions themselves. The strength of the population is reduced by this splitting up into several small families, and though there may be plenty of stocks and bees, there is rarely so much honey as might have been harvested had this division not taken place. Those using movable frames—and to such my remarks here apply—endeavor to avoid this inconvenienbe by cutting out all the queen-cells but one from the mother-stock after the exit of the first swarm, or the formation of the scion. Putting on one side the difficulty of taking out and minutely examining the combs one after the other, and thus thoroughly disturbing the bee, this plan succeeds fairly with stocks from which scions have been made, and may be undertaken with certainty on the ninth or tenth day after; but in stocks that have swarmed, if the cells are cut out on the same day or a day or two later, open brood will probably be present, from which new ones are raised; while if the operation is delayed till the ninth day, it is very easy to be too late.

Thus where the swarming method is practiced, it is necessary, in order to prevent after-swarms, to cut out the cells on the same day, and also nine days later, thus twice going over this rough business. But suppose, unfortunately, that in the stock that has furnished either a natural or an artificial swarm, some trifling hidden queen-cell has been overlooked, or that the single majesty of the hive takes it into her head to swarm, an occurrence not unusual with us, swarming takes place, the cutting out of the cells has been in vain, and should the swarm be happily hived, a new perplexity frequently arises in not knowing from which stock it has issued, as the bee-keeper would be glad to return it in order that the stock may not be too much weakened and still capable of doing something. With my hives, a glance at the inside, if any one chooses to take the trouble of turning them up one after the other, is generally, though not always, sufficient to determine this. But how with the box-frame hives? is every stock to be opened and taken to pieces? No, rather is the swarm placed by itself to drag out a wretched existence, unless, perchance, another swarm can be joined with it in the course of a few days. And the mother-stock, even when it gets quickly furnished with a queen and does not become a prey to the moth, what does it yield? During the time that had it not swarmed, it would have gathered and stored up honey, it will exert itself to regain its lost strength, and should it succeed in this during a good gathering, it has done all that is possible, but there is no honey for the bee-keeper, and the industry of the bees counts for nothing. But enough of this. Whoever has so thoroughly gone through it all as I have, will gladly listen when I tell him that these all wearisome operations, all these vexations, may be easily avoided by the plan of division employed by me in my hive. In stocks that have swarmed naturally or artificially, the cutting out of the queen-cells is no longer necessary, that operation being left to the bees, who understand the business better than many a bee-keeper, and the undesired swarming is radically hindered. This is an assertion, says the reader, which must be proved; and the proof is easy.

Experience has long shown that small populations, such for instance as are used in queen-raising, never think of swarming, unless troubled by the moth or by hunger. In their queenless condition, indeed they take the precaution of raising several queen-cells, but under all circumstances they permit the queen that is first hatched to gnaw into the other cells and destroy the rivals she finds there.

To what breeder of Italian queens has it not happened, to his great annoyance when about to cut out the extra cells for another use, to find these already destroyed? Let us use the hint so plainly offered and divide a population we do not wish to swarm, but that certainly would do so if undivided, into as many smaller populations as the circumstances demand. Sometimes only a twofold, sometimes a threefold division, is necessary. And as through such a division the first hatched queen most certainly destroys the other queen-cells, only one queen remains in each small population, and the latter, feeling its weakness, never thinks of swarming. Each compartment naturally makes preparations for the raising of queens, and in favorable cases a fruitful queen may be found in each; but at the worse, if only *one* of the two or three queens remains and becomes fruitful, the early requeening of the united population is assured. This will follow earlier if a queen-cell nearly ready to hatch has been inserted into each chamber two days after the division. About nine days afterwards a fruitful queen may be found in one or other of the divisions, under which, after the removal of the other queens, if such

are present, the small populations may be again united. And in reference to the certain possessions of a new queen by the reunited stock, it is only necessary to observe, that with two, and especially with three queens hatched, the probability of the loss of all three must be very slight. At least one queen will remain, which then becomes the mother of the whole united stock. But the unnsual occurrence of all three queens in a threefold division being lost, is an exceptional case, upon which little stress need be laid, since other divided stocks will have a spare queen for the less fortunate ones.

It will be understood that by this mode of division drone-breeding in the mother stock becomes almost impossible. In this matter, again, the easy control that the apiarian has over the two or threefold stock comes to his assistance. And if, by this plan of division, he preserves only one of his stocks from drone-breeding, the slight trouble which it causes is thoroughly rewarded.

That these small stocks of the divided hive only build worker-comb under a young queen, results from their weakness and the impulse they feel to increase as rapidly as possible the working population which can only be raised in worker-cells.

In situations where bees that have a strong tendency to swarm are cultivated, or where through a luxuriant pasturage they are easily excited to swarm, more especially if the stocks are kept thoroughly strong like mine, it not unfrequently happens that these stock, even under young queens, instead of worker-comb, vigorously begin to build drone-comb, which is frequently furnished with eggs. This undesirable occurrence is quite prevented by this plan of division. The empty frames with guides that are given to these dividen stocks are, on account of the reason above stated, built without one cell of drone-comb. In this manner five new combs may be built in a threefold stock, so that the united population may contain fourteen beautifully perfect combs, which, being free from drone-comb, are of considerable value to the bee-keeper. It must be remembered, however, that comb-building costs honey, which also has its value; and judicious bee-keepers will make the production sometimes of the one, sometimes of the other, his principal aim according to the end in view. A certain amount of comb-building, however, should always be permitted to these populations in which the building impulse is strongly awakened when the young queen begins to lay. The increased industry of the bees through comb-building doubly compensates for the honey used for a moderate amount of combs.

There are two advantages of this mode of division which cannot be too highly estimated,—the raising of so many young queens, and the production of populations capable of work at the right time. Every stock yields one or two fruitful queens, which can be used for stocks that have not been divided, or for those that have become queenless, or for exchanging with old queens, or those that are not satisfactory, or for sale if there is the opportunity. The advantages hence resulting there is no need specially to mention; they are apparent, as also are those of possessing at the right time, strong working populations, or to express myself popularly, "to have bowls ready when it rains porridge." Heis in want of the bowls whose stocks first develope themselves, not before, but during the gathering time, or break up before or at the beginning of this time into smaller populations. This splitting up of the strength can be radically prevented, as I have pointed out by my plan of division if this is undertaken at the right time, that is so arranged that by means of the reunion of small populations, strong stocks under young queens, free from the swarming impulse and filled with a restless eagerness in collecting, are produced at the season of the principal pasturage. —*Echoes from Germany, in British* (*Eng.*) *Bee Journal.*

(*To be continued.*)

For the American Bee Journal.

My New Bee House.

BY B. I. TALBOTT.

Mr. Newman:—As I see so much said about a bee house now, I send you the following article which I had published in the *Farmer's Journal*, Cedar Rapids, Iowa, for March, 1873. I have used the House ever since with good success, and believe it to be the great need of the age. Here is the article in question:

Having built a bee house a little different from any I had seen, I thought I would give a description of it so that if any one wished to duplicate it, they might do so without the expense of a patent, as I am willing to make it a free-will offering to the whole bee-loving fraternity.

DESCRIPTIONS OF MY HOUSE, BUILT FOR TWENTY-FOUR HIVES.

The foundation the same as for a balloon frame, 4 joists 2x6, 15 feet 2 inches long; spike well together in form of a rabbet, then 13 joists 2x6, 6 feet long, placed just 15 inches apart from center to center, and you have a foundation. Then for one side, take 13 studs 2x4, 6 feet long. Nail securely on the lower end of them, a good and straight flooring board, placing the studs just 15 inches apart from

center to center, then a 4-inch strip nailed on the upper end of the studs, and it is ready to raise; then nail the flooring board well down to the foundation, duplicate it for the opposite side, and finish laying the floor in the center of building. Then have one good stock board, 15 inches wide, 15 feet two inches long, for bottom of the hives; place on the floor close to the studs, cut beveling, slots between the studding in bottom board, so that when the side-board is in its place, the bees can pass out. Then take another board of same dimensions and cut a rabbet on side, and upper edge, one inch deep, half the thickness of the board. Then cut thirteen rabbets, 15 inches apart from center to center, crossways of the board, ⅞ inch, just as deep as the rabbet on the upper edge of the board. Place this board with one edge on the bottom board, and the undressed side against the studs with the center of rabbets, corresponding with the center of studding, nail it well to the studding, and you have the bottom and one side of 12 hives. Then prepare 13 boards 14 inches long, 15 inches wide, ⅞ of an inch thick, place one end in each rabbet, and toe-nail them, and you have the end boards of 12 hives. Then prepare another board 12 inches wide, a little beveled on the under edge, and rabbeted in same manner as the one nailed to the studding. Nail it to the 13 end boards, and you have 12 hives 13x14, 14 inches deep, with a rabbet in the upper end to receive the moveable honey frames. But you have a vacancy of three inches at the bottom of one side of the hive, and I will tell how to fill that. Prepare 13 small strips, beveled a little on each edge to fill out the end board flush with the bottom and side board. Then find the size of the hole, and prepare 12 pieces one inch thick, with a 1¼ inch hole in the center, with a piece of wire cloth tacked on the inside, and a plug about two inches long; then fix the other side of the house in the same way, and you have 24 hives. To inclose the house, I invert a piece of siding obliquely between the studding so as to form a piazza in front of each hive, two inches high in rear, and four inches in front, and there commence the siding. I covered the sheeting and studding well with saturated paper before siding and shingling, put a door in one end and a window in the other. Side, roof and paint it well, and you have a neat house with 24 hives, at about $2.50 each, house and all.

Now I have described my house, and know all men by their presents, that I have no patent, and don't want any. Pitch in, all ye bee men; (and the rest, too,) tell what you think of it. All the bee journals please insert and charge to the first man that wants a house like mine.

Viola, Linn Co., Iowa, Feb., 1873.

Lincoln County, Tennessee.

T. G. NEWMAN: *Dear Sir*—The following description of Lincoln county will be interesting to many of your readers, especially those wishing to find homes in a warmer climate, where bee-keeping will *pay*. Those wishing further information will address Rev. J. W. Wait, Prof. J. A. Ramsey, or your humble servant,

J. F. MONTGOMERY.

Lincoln, Tenn., Sept. 1st, 1875.

Lincoln county lies almost wholly within the great Central Basin of Middle Tennessee, and contains 332,800 acres. The county is cut into two nearly equal parts by the Elk river, which flows from east to west. Between Elk river and the Alabama line is a belt of high, level land which is the water-shed between the former water course and the Tennessee. The surface of the country is greatly diversified, the climate is mild and salubrious, an ice season seldom occurs, and the summer heat rarely reaches 100 degrees Fahrenheit. The average elevation being about 500 feet above the level of the sea, the air is comparatively free from miasmatic influences. The average temperature for winter is about 42 degrees; spring 61 degrees; summer 78 degrees; autumn 61 degrees. The average for the year is about 60 degrees, and the greatest range for any one month does not exceed 40 degrees.

The lands, with the exception of a strip lying on the Alabama line, about eight miles wide, are very fertile. Much of this strip, however, is quite productive when there is a red clay subsoil, and is generally well timbered—oak, hickory, chestnut, blackjack, etc., furnishing rails in great quantities for other portions of the county—and the grazing is excellent. This land can be bought at low figures—ranging from $1.50 to $10 per acre—though it is splendidly adapted to fruit growing. The whole State affords no better region of country for grapes, apples, peaches, pears, plums, etc. There are several Northern farmers now located in that part of the county, and have already demonstrated that skill, thrift and industry, unawed by unpromising soil, can make the waste places blossom as the rose.

The remainder of the county is of the most fertile character. Spacious valleys, alternating with hills and ridges, are the leading features, all of which are susceptible of cultivation, form the lowest to the highest points. Blue grass grows with great luxuriance, and the sunny slopes furnish ample grazing facilities during the winter for sheep and cows.

The timber consists of lime, buckeye, hickory, poplar, box elder, black locust, chestnut, beech, dog-wood, iron-wood, horn-bean, sugar-tree, hackberry, cedar in limited quantities, and all the oaks and elms. All the valleys of the county were once covered with cane thirty feet high, and even now the plowman, who penetrates the soil to any considerable depth, turns up masses of cane root. The soil is as rich as any in the State, and it is not unusual to gather 1,000 lbs. of seed cotton to the acre, as much as 2,000 lbs. having been raised. A fair, average price for these lands ranges from $10 to $50 per acre.

The corn crops of Lincoln are generally very fine. Perhaps no other county in the State can make a better average showing of this great staple. Wheat, also, when properly put in, gives very satisfactory returns; it being by no means remarkable for the yield to reach 20, and sometimes 33 bushels to the acre. Timothy grass grows with great luxuriance on the moist bottoms, and millet, of every variety, yields abundantly. Some of the heaviest millet crops ever harvested in the State were grown in this county, so says the report of the State Bureau of Agriculture for 1874. Cotton, too long the sovereign of Southern planters, has been, in the main, a great crop, and too many sacrifices have been made to its culture. Our people, however, profiting by experience, are abandoning it as rapidly as possible, and favoring other productions less injurious to the soil and more renumerative in the end.

Everything goes to prove that this county is well adapted to stock raising. The blue grass that clothes the slopes of the hills, and the well watered valleys, the natural facilities offered by the soil for producing forage, and the abundant yield of corn, show how eaisily and how cheaply stock of the best quality can be raised. There is a growing inclination on the part of our best farmers to abondon cotton and substitute therefor stock raising, and many of them are even now enabled to make a splendid display of short horns, as an evidence of their practical reformation in this respect. Considerable attention is being paid to sheep, and some of the best breeds in the State are to be found in Lincoln county.

Our farmers, as a class, are well informed, intelligent, substantial, and industrious. The farms will probably average from twenty to fifty acres of arable land. The farm-houses and improvements are about as good as are to be found in other portions of the State. While the low bottoms are not well adapted to the growth of fruit, which is liable to be killed by late frosts, the flat lands and hilly regions grow almost every variety to be found in the temperate zone. Especial attention is being directed to the culture of the grape. The admirable drainage, and broken surface of certain sections of the country, together with the abundance of wild grape vines, show a peculiar fitness in the soil for the growth of this fruit.

While the water power is not the best in the State, it is fully equal to all the present and probable future demands of the country. Elk river is not an ungovernable stream by any means, and it is now utilized, or can be, at every few miles.

There is one rail-road, forty miles in length, in the county, connecting Fayetteville, the county seat with Nashville and Chattanooga Railroad, the main thoroughfare of Southern travel.

Lincoln county has more than once been the banner county of the State in the leading products, as well as in the higher evidences of prosperity and substantial progress. It has produced the greatest number of pounds of wool, the greatest number of horses, the largest number of sheep, and had more capital invested in live stock than any other county in the State. It has been second only in quantity of rye produce, and in pounds of butter. It has been third in corn and fourth in wheat.

Lincoln county does not desire a dense or a promiscuous population, but a sufficient influx of steady, substantial citizens, to carry on every branch of human industry for which there are natural facilities, unsurpassed in any other portion of the State. We invite men representing every class of honest industry and skill, regardless of previous political predilections, to settle in our midst, and to all such, who come among us with fair and laudable intentions, seeking in good faith their own and the material prosperity of the county, we vouchsafe a cordial welcome.

We can speedily disabuse their minds of partisan prejudice, and convince them under our roofs and around our hearthstones that we are a people worthy of fraternal alliances, and capable of appreciating merit, whether it comes from the looms of Massachusetts or the rice-fields of South Carolina. We make no sectional distinctions and we know but one country and one flag—the Union of our fathers and the starry emblem of its sovereignty. Whatever miserable political marplots may say, we cherish no bitter recollections of the late unhappy war. We have buried our dead, dried up our tears and put the past in our rear and out of sight. We belong to the future and to our country, we are in search of peace and prosperity, and Mason and Dixon's line has passed out of our sight and memory forever. Gentlemen, of the North, come among us; partake of our hospitality; be our friends and brothers, and the soil of old Lincoln will repeat the welcome of her sons.

For the American Bee Journal.

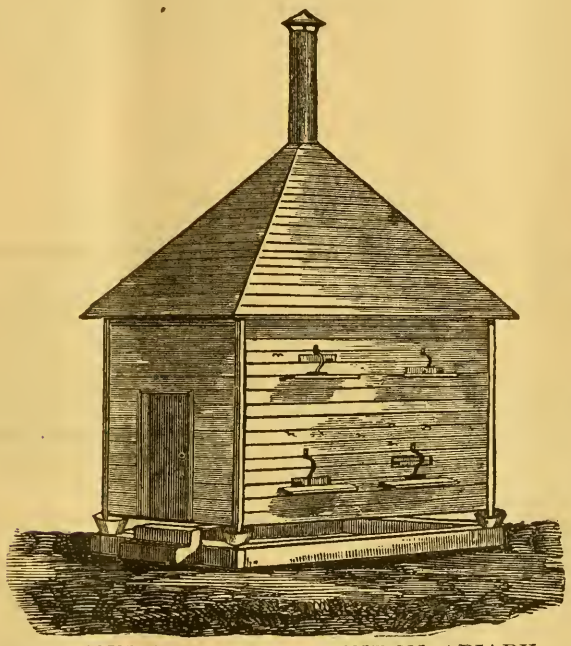
HOW TO PREVENT SWARMING.

As many inquiries have been made respecting my improvement in an Apiary, I will take this method of answering, and giving the information desired.

My improvement in an Apiary, which was patented on the 4th of February, 1868, (No. 74,665.) brings to the light the hitherto great mystery of bee's swarming, and proves it to be a habit caused by necessity, and not an instinct.

Two of the leading causes are heat and the want of side room. Having understood these facts for twenty-two years, I can safely say, and my neighbors can all testify, that my bees do not swarm. No brood or honey is removed to prevent it: they use all their force in storing surplus honey.

My improvement in an Apiary consists in a house so constructed and ventilated, as to render it indispensable for keeping bees comfortable and dry in winter, the much desired even temperature through the summer season, and for yielding the largest amount of honey possible to be obtained from the bee, in boxes.

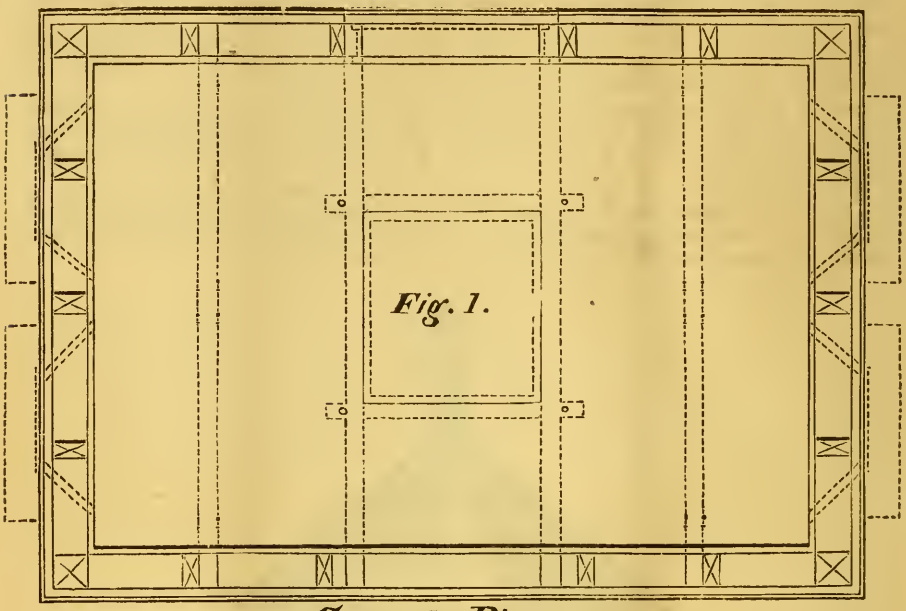


FAULKNER'S IMPROVEMENT IN APIARY.

The cellar is to be near five feet deep, and walled, iron pins fastened to the sills; the pins to rest in cups; (tar or any nauseous ingredients should be put in the cup to keep the ants out of the building) and in length sufficient to elevate the building 1½ inches above the foundation; a flue to extend up from the ceiling nine or ten feet, well secured at the roof to keep the water out; two apertures or holes in the ceiling, should have slides to open and close. There should be a shutter to open and close hatch in the floor. When the apertures are open, the flue may be made of wood or sheet iron, and wire gauze should be fastened in the top of the flue to keep bees and other insects out; all hives must have two or more large ventilating holes with sieve wire over them.

In figure 1 is represented the entrance for the bees, and lighting board, the entrance ¾ of as inch high, 12 inches wide, and increases in width, as the dotted lines show in the walls on figure 1; for ordinary size hives entrance to be continued same width (12 inches) through the walls; lighting board 20 inches wide, 24 inches long and ⅝ inch thick to pass through the wall and fasten to shelves inside on which the hives rest. *The building may be arranged inside for any kind of hive desired.* A piece of board 1¾ inches wide, ¾ of an inch thick, 16 inches long, and notches 3 inches long, ⅜ of an inch deep, secured to the entrance of the hives by means of springs made of hoop iron, fastened to the wall, to decrease and increase the entrance for the bees as needed, as seen on figure 5: a cheap foundation may be made, by setting posts in the ground, and nailing boards to them, as seen in figure 5; then dig the cellar inside of the foundation and wall it well-fashioned. Walls of the house from 7 to 10 inches thick may be filled in with saw-dust or any non-conductor of heat; also the double floor should be filled

in, and over head it should be filled 12 or 14 inches deep; ceiling and doors may be made any height desirable; first shelf for hives 6 inches from floor, the second shelf 2½ feet above first; these shelves are made square to the walls and 19 inches in width.

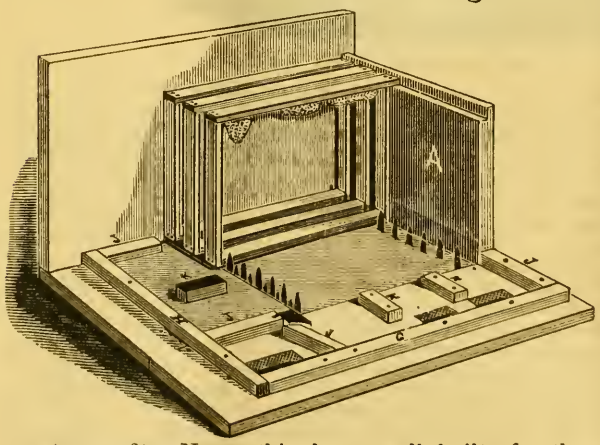


Ground Plan.

For every 2 feet 6 inches in depth may be added one more tier of hives on each side For any increase in size of building there must be a proportionate increase in size of cellar and flues. For 12 hives, flues and cellar to be one third larger, and so on. Two doors to enter the building, 2 feet 2 inches wide; inside door hung on shutter hinges for convenience, and made air tight by tacking a piece of thick cloth even with the edge of the door, so as to shut tight against the rabbet formed in the door frame, and firmly fastened by means of hook and staples.

The house should be shaded on the sides, screened from the winds, and painted any light color except white.

Fig.1



Fig's 1 and 2 show how to cut out and set up the hives. Fig's 3 and 4 show how to put the boxes on. The top side and end being removed. They are filled with 3 and 6 lb boxes, and enough can be put in to store 200 lb.

With our style of hive the honey is stored in three and six pound glass

boxes; also in small frames. Honey prepared in this way will bring a much better price than extracted honey, giving greater profits. Now, this house well built, for the accommodation of sixteen colonies of bees, will costless than sixteen hives with sufficient box room. The house may be arranged for any kind of hive and in number from one up to any number desired. You can examine your bees and see their

Fig. 2

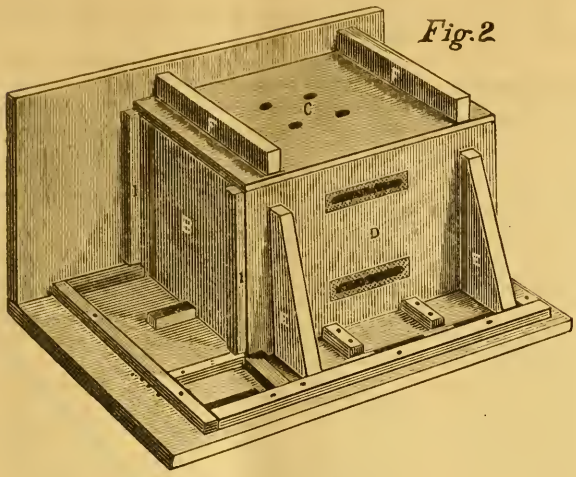


Fig. 3

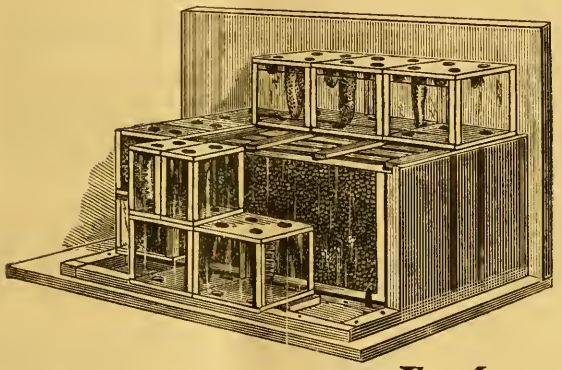
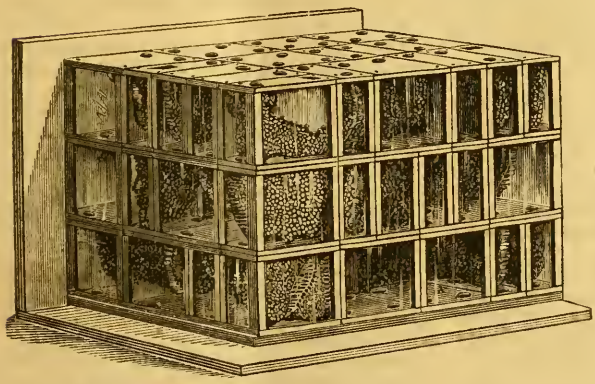


Fig. 4



condition, and if necessary, feed your weak colonies, without danger of having them robbed.

As you can plainly see, this house is particularly adapted to the wants of the farmer, as the great and much sought-for principle of controlling swarming is here brought to light, and carried to the utmost point of perfection.

I am keeping bees at five different places, three miles apart. In the fall, I go to each one and see that all the colonies are in condition for winter—close ventilation to house (the hives are ventilated inside of the house both in summer and winter,) also close the mouth of hive to about one-half inch; in hard freezing weather leaving only room enough for one bee to pass at a time; when the weather moderates increase the size of the mouth of the hives to one-half inch, as the bees commence hatching their brood they generate a great deal of heat. I then examine and see if all have queens; if I find any queenless I give them one (as I keep surplus queens through the winter.) and if any are not cropped, I crop them. As the weather becomes warmer increase size of mouth of hive, and when the heat in the house raises to 85°, commence opening the ventilators, but keep the temperature from 85° to 90°. In May, when the bees commence sticking wax freely to the honey-board, I remove it and place narrow strips on the frames, one-fourth inch thick, crossways, for the honey boxes to set on, and as soon as the bees commence work in the boxes I remove the side, fill the place with boxes, also the end of the hive; now as soon as the boxes on the top are nearly filled I change them with some of the side and end boxes; by this means the working force is distributed uniformly over the hive, and in the hurry of business they forget to swarm.

All persons are hereby warned not to use this patent, without first obtaining an Individual Right.

Vevay, Switzerland County, Indiana. WM. FAULKNER.

BEE KEEPING IN 1875.

UNIVERSAL REPORTS.

In our last issue, it will be remembered, we called for answers to the following questions:

1. What has been your success this season up to date, as regards honey and swarms?
2. What is the prospect for the balance of the season?
3. Which are the *best* three honey-plants in your location?
4. When do they *begin* to yield honey, and *how long* do they thus continue?

Answers have been bountifully supplied, and we have pleasure in presenting them to the readers of THE AMERICAN BEE JOURNAL. Correspondents have our thanks for their prompt response to our request.

MR. NEWMAN:—In accordance with your request, I send the enclosed report of the present season's work, up to date, with my bees:

1. Started last spring with sixty hives, all in fair condition. Have increased them, (part by natural and the rest by artificial swarming, as described in Vol. 7, No. 1, pp. 23 to 114,) all in splendid condition. As to the amount of surplus honey, I cannot say positively. It is nearly two thousand pounds, all comb honey, in small frames.

2. At present, prospects for the balance of the season is good.

3. First in importance is white clover. Second, basswood. Third, buckwheat, and, I might add, golden rod, boneset and smart-weed, all in bloom this month, from which the bees are now gathering honey quite rapidly, and are still actively at work in the surplus boxes.

4. White clover usually comes into blossom about June 12, and continues from four to six weeks, owing to more or less rain. Basswood blooms about the 16th of July, and continues from one week to ten days. Buckwheat begins to blossom about August 10, and continues for about four weeks.

Both clover and basswood were almost an entire failure, this season; while buckwheat and the fall flowers are quite good.

HENRY S. LEE.

Crawford Co., Pa., Sept. 9, 1875.

EDS. AMERICAN BEE JOURNAL:—In answer to your inquiry I will report concerning my location as follows:

I started with three colonies(from seven last fall), now have six in excellent condition, mostly hybrids, (had simply comb to give them) and have taken up to date thirty pounds extracted and ten pounds comb.

2d. Prospect good for balance of season if weather permits bees to work.

3d. Best three honey plants: white clover, aster, several varieties, and golden rod, several varieties.

4th. White clover begins blooming about the first week in June, (later this year) and continues till frost.

Aster begins to bloom about August 1, continues till frost. Golden rod about August 15, and continues till frost.

We have other sources, such as willow, some soft maple, boneset, motherwort, vivaia, wild onion or garlick (valuable), hartshorn, nettle, etc.

Last year my bees would not touch the golden rod, but went for aster right beside it "lively." Bees are now gathering from aster and a plant whose honey has a strong, sour smell in the hive, but the honey is good when sufficiently evaporated for sealing.

Boneset gives a bad taste to all the honey it is mixed with, and is so far an injury, though, I presume, it is good enough to winter on.

I shall look with interest to the answers to your questions, as I am looking up a location for an apiary, and have been for some time past. ROBERT J. COLBURN.

Cook Co., Ill., Sept. 10, 1875.

In reply to "Special" questions:

1st. Am using Coe's House Apiary; put in five colonies May 20; have increased by artificial swarming to twenty-three colonies. Have taken about sixty pounds of honey from two colonies.

2d. If the weather proves favorable my young colonies will all become strong enough to store sufficient honey for the winter.

3d. White clover, motherwort and basswood.

4th. White clover, June 1 to August 20; motherwort, June 1 to September 1; basswood, July 10 to August 1. There are also here, gill-over-the-grass, April to July; catnip, July to September; mustard, July to frost. MRS. MARY J. STIBBS.

Wayne Co., Ohio, Sept. 10, 1875.

DEAR BEE JOURNAL:—I submit the following answers to inquiries in your last issue:

1. Early part of season cold, and backward for bee culture and honey-making. Bees did little or nothing. Towards the last of May, each swarm was divided. Two swarms out of ten made 30 pounds of surplus honey, each. This was made in boxes on top of hives—but all had plenty of honey in the body of the hive. One hive swarmed after division.

2. Very good.

3. White clover, buckwheat and sumach.

4. *White clover* usually yields honey from about the 1st of June until the 1st of July; *buckwheat* from the last of July until the 1st of September, and *sumach* from the middle of July until the middle of August.

During April and early May, the blossoms of fruit trees are the principal dependence for honey-making.

GUSTAVUS CHOLWELL.

Duchess Co., N. Y., Sept. 6, 1875.

My success has been very good, the latter part of this season. I started with thirteen swarms in the spring, fed to the amount of one dollar to the stand; have increased to about sixty, and taken out two thousand pounds of extracted honey.

The prospect for the balance of the season is good.

The best honey plants now are: buckwheat, *poligonum erectum*, and the different varieties of golden rod. Honey-dew has also helped. N. CAMERON.

Douglas Co., Kansas, Sept. 15, 1875.

I would say that my success in bee keeping this season, has far exceeded my expectations. I took my bees (only two stocks,) from the cellar about the last of March, one of which was pure Italian of tolerab e strength, the other contained an Italian queen badly mated, but they are excellent workers. As our colonies were thus limited, my principal aim was increase of bees, not honey. Now (Sept. 9) I have twenty-four swarms. About three weeks ago I began to extract honey, and since that time I have extracted 263 lbs. and the prospects are good for an increase of one or two stocks and a hundred pounds more of honey.

The principal plants upon which the bees work in this vicinity are: white clover, basswood and buckwheat. Basswood secreted but little honey this season. In the time for clover it was too wet for the bees to work, consequently clover-honey is not abundant, but they have had an excellent time to work on buckwheat, and buckwheat honey is abundant.

This being my first experience in bee keeping, I have much to learn, and as an instructor, your BEE JOURNAL cannot be surpassed. C. C. CRAWFORD.

Kane Co., Ill., Sept. 9, 1875.

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1. From thirty-two colonies, got 200 lbs. extra honey, and increased to 545; *strong* in bees; about half honey enough to winter.

2. Nothing to be gathered after this.

3. Fruit and locust, white clover and buckwheat.

4. Fruit, 1st of May, ten days. Locust, 15th of May, five to nine days. Clover, 20th of May to 10th of July. Buckwheat, August 1, to 15th to 30th September.

H. NESBIT.

Harrison Co., Ky., Sept. 15, 1875.

EDITORS AMERICAN BEE JOURNAL:—I send you the following report in compliance with your request in the September number:

Commenced the season with thirteen stocks, mostly in good condition. Have increased to thirty-three. Have taken off ninety-three single-comb boxes, (Geo. T. Wheeler's boxes, of Mexico, N. Y.) each containing probably two pounds of honey. There are thirty-six more in the hives, nearly filled. Have extracted about 150 lbs., after deducting what I fed of last year's honey at the close of the clover season to get boxes filled that were almost full.

Buckwheat is generally sown here from the 20th to the 25th of July, and the bees commence to gather honey from it toward the last of August. It will yield honey probably till near the last of this month.

The prospect for the balance of the season is good.

White clover and buckwheat are the best *two* honey-plants, but I am hardly certain about the third. Perhaps it is whortleberry, of which there are several varieties in all the swamps and woods all along the shore.

My bees obtained considerable honey last fall, lighter in color than, and of as good flavor as white clover honey. I don't know what it was gathered from unless it was later. I don't see much aster this season in blossom yet.

White clover generally begins to yield honey, I think, soon after the middle of May; but this year not till the 1st of June, and lasts till about the last of June. Not much honey was gathered from that time till the last of August.

Buckwheat begins to yield honey the last of August, and lasts till near the end of September, I think. I made several swarms the 1st of this month, which I expect to get in good shape for winter. I can't give the beginning or ending of whortleberry honey. It is in blossom when white clover is, and isn't of *very* much importance on that account.

E. KIMPTON, M. D.

Ocean Co., N. J., Sept. 6, 1875.

MR. NEWMAN:—In answer to your questions let me say:

I started with twenty-six hives of bees this spring, having brought them all safe through the winter. I let them remain on their summer stands and put quilts on them. This was the only protection they had. In that condition they wintered well, without the loss of a single hive. I have increased my bees from 26 to 30 hives, and have taken, up to date, 500 lbs. of honey. My bees are still working rapidly on the fall bloom and carrying in quantities of pollen and honey. The first part of the season was very poor, as all the bloom was killed, and after that the

rainy weather set in, and it was all that the bees could do to keep up breeding and keep a little honey ahead. In fact, about the 2d of August it was so cold and rainy, and my bees, being kept within for several days, some of them commenced to crawl out of the hive in the grass and die. I fed them some syrup, and as the weather moderated and cleared up the next day, they went to work with a will to make up for lost time.

With regard to the prospect for the balance of the season, I can say that my bees are doing as well as I could wish. They are still carrying in plenty of pollen and honey, and sealing a great deal of it over. They have also plenty of brood in all stages for this season of the year. I have given most of my hives young, fertile queens, and they are breeding very rapidly, thus filling the hives with young bees, preparatory to standing the siege of winter's cold blast. My bees are Italians; I would have no other. I would not have black bees as a gift, and be obliged to keep them so, without Italianizing them.

The best three honey producing plants in my location for fall gathering, are: smartweed, boneset and golden rod. We have also another plant, I do not know the name of, that grows some eighteen or twenty inches high and branches out, and has small blue flowers on it. The bees work on it very much. We have here during the spring and summer, peach, apple and cherry, and the different fruit blossoms. The next best blooms are the black locust, yellow poplar, and the white and red clovers. They gather rapidly from the red clover, but I think they gather faster from the poplar bloom than any we have here. They will fill their frames every few days, when it secretes well.

The smartweed begins to bloom from the 18th or 20th of August, and blooms for some four or six weeks. Boneset commences to bloom about the 24th or 27th of August, and blooms about as long as smartweed. The golden rod commences to bloom here about the 26th and 27th of August, and blooms until frost and freezing weather sets in.

My bees were still carrying a little honey and pollen the 24th of October, last year, from the golden rod and from a little white flower that grows in our swampy lands. It is hardy and takes a hard freeze to injure the bloom. I have seen my bees visiting it after we have had some snow, on warm days.

WILLIAM BENCE.

Jefferson Co., Ky., Sept. 16, 1875.

EDITORS AMERICAN BEE JOURNAL:—In answer to your questions, I would say:

1st. My bees have made but little honey this season. They have been more disposed to swarm than I ever knew them before, but I have prevented increase by clipping and doubling, only to just double my swarms. Quantity of honey light in proportion to number of bees.

2d. There is nothing in this section (it being generally all upland) to rely upon for honey, when our domestic flowers fail.

3d. Alsike, rape and buckwheat. Alsike clover begins to blossom commonly between the 6th and 12th of June, continues four or five weeks, if allowed to stand; depending much on the weather, whether wet or dry. Rape can be sown from early spring till the time when it will barely blossom before frost; it blossoms in good growing weather, about two weeks after it comes up, and continues to afford honey about four weeks. Buckwheat is too common to need description. A. STILES.

DeKalb Co., Ill., Sept. 13, 1875.

DEAR JOURNAL:—My success this season is as follows:

I commenced with fifty-five swarms, and now have one hundred and six, in good condition. The season has not been a favorable one for honey, but I shall have about 1,500 lbs. of surplus in frames, from this season's operations.

The three best honey plants are white clover, basswood and buckwheat; but when buckwheat was in bloom, it was very wet here. M. SNYDER.

Albany Co., N. Y., Sept. 17, 1875.

EDITORS AMERICAN BEE JOURNAL:—In response to the interrogatories addressed to your readers in the issue for September, I answer as follows:

1. My success in raising bees has been good, having increased more than three fold; while I lost more than a dozen swarms, (some of my choice Italian queens among them,) through sheer ignorance, not knowing how to manage them, I flatter myself that I shall be master of the situation another swarming season, from my dear-bought experience in this. The product of honey has not been great, or at least the surplus has not amounted to much, for they raised young to such an extent, and continued at it so long, that it seemed to require most of the honey to rear brood. My hives are now all strong in bees, and those that swarmed early, have afforded me some twenty or thirty pounds of surplus honey each. Those that swarmed late, have maintained themselves in a healthy condition.

2. The prospect for the balance of the season is good. The smart-weed, and other fall honey producing plants, have commenced to bloom, and the bees have been quite busy at work for the past few days. In fact, I look forward to my best honey harvest, should the weather continue favorable during this and the ensuing month.

3. I am not very well versed in botanical lore, my time has been too much in demand by my professional duties, and my experience in bee-keeping has been too limited, to determine satisfactorily the best three honey plants in this locality; but I think they are the peach, including the wild *lauro mundi*, the gum, of which there are three varieties, the sweet, the black, and the tupelo, and the smart-weed.

4. The wild peach is an evergreen and blooms in January. The domestic peach blooms with us in February and March. The bees gather honey from the two, I suppose, eight or ten weeks. The gum blooms in March and April, but I am not prepared to say how long. The smart-weed blooms about the first of September, and continues until frost. I consider it our best honey-producing plant, and the honey gathered from it, though rather dark, is of a most delicious quality. My bees are now working at it in full blast, though on account of the excessive heat, their operations are pretty much confined to the forenoon. About two or three o'clock, P. M., the mercury then ranging about ninety-six in the shade, they slack off and hunt a shady place about the hive. At that hour in the sun, empty combs melt and run like water. J. APPLEWHITE.

Pike Co., Miss., Sept. 7, 1875.

MR. T. G. NEWMAN:—In answer to your questions I respond:

1st. Very little success, as regards the amount of honey gathered, and only a moderate amount of swarms.

2d. The prospect for the balance of the season is not very flattering. Buckwheat is now in bloom, but the bees seem to gather little or no honey from it. Does too much wet weather affect the honey-producing capacity of it? August here was very wet.

3d. White clover, buckwheat and sumac.

4th. White clover begins to yield June 15, and continues about a month. Buckwheat begins to yield about September 1, and continues two or three weeks. Sumac begins about July 15, have not noticed how long it continued.

FOREST PRESTON.

Lancaster Co., Pa., Sept. 9, 1875.

ANSWERS TO QUESTIONS:—1. Bees stored no honey, raised but little brood up to July 20th. Then hives were soon filled with brood, swarms were numerous and considerable honey stored from August 1 to Sept. 3. Ten hives, Italians, increased to 28, beside two that we know left us.

2. The prospect is now good for remainder of season.

3. We have no clovers. Locusts destroyed all my red and alsike. Pusunu, buckwheat, smart-weed, and golden rod, all very plenty near me this season.

4. First two began to bloom July 15th and 20th, and are yet. Last one not in bloom yet.

I am a beginner in bee-keeping and Kansas farming; am in open prairie, 1½ miles from timber and water. Fruit trees, hedges and cultivated trees, though young, are numerous. I water my bees, keeping water in trough in apiary constantly. Just now the country is covered with bloom, buckwheat, smart-weed, wild sunflower and two or three other large yellow flowers, I cannot ascertain their names, and they are entirely new to me.

I have extracted 100 pounds honey, and have from 100 to 200 now to extract, about 100 pounds in boxes nearly ready to take off. SMITH TALBOT.

Franklin Co., Kansas, Sept. 6, 1875.

MR. THOS. G. NEWMAN:—I received the Sept. number of your valuable Journal in due season, wherein a few enquiries are made to Bee Keepers in general, which I propose to answer:

1. My bees have done but little this season, either in swarms or surplus honey, *because* they were so much reduced in the spring that it has taken all the season for them to *recruit* up *again* to fair condition for wintering.

2. The prospect for the balance of the season will greatly depend on the weather. If we have an early frost nearly all fall flowers will be destroyed in this vicinity, and the honey season may be considered *closed;* but if frost holds off, I presume they will make a fair living but store no surplus.

3. The best three honey plants in this vicinity, are white clover, linden and buckwheat.

4. They usually begin to yield about the 10th of June. White clover continues nearly all the season if the weather is not too dry. Linden usually begins July 10th or 15th and lasts from 3 to 10 *days*, owing to the season. Buckwheat about the 15th of August and usually lasts until about the 10th of September.

With me this has been the poorest season for bees I have known in twenty *years*. The cold weather in the early part of the season destroyed nearly all the *brood*, and the results were but few swarms *issued*.

D. W. FLETCHER.

Tompkins Co., N. Y., Sept. 13, 1875.

DEAR BEE JOURNAL:—I commenced the spring of 1875 with 19 stands—one queenless as the spring was cold, we had to feed our bees, till fruit blossoms came. Then our strongest stocks only made a little more than they consumed. We had to feed again till June 1st, all kinds of clover winter-killed. Our wet season commenced about the 5th of July. About June 15th, I divided two swarms, and on the 22d I had the first natural swarm. In July I had

four more. I divided four swarms about the middle of August, I extracted three quarts. In a few days I took 16 quarts, and after that I filled a 13 gallon can. On the 6th of September I extracted more than that. That night the great storm occurred, doing immense damage everywhere. My first swarm came out August 14th, another on the 17th, and another on Sept. 6th. The first two filled their hives. The September swarm left for parts unknown. I have now 31 swarms in good order. I have taken 125 boxes of good honey, and more than that number are partly full.

Some seasons white clover does well, but I think alsike would do better. There is none here except five acres I sowed three years ago, and eight acres I put in last spring. Linn did well in 1874, but not this year. Hearts-ease or smart-weed does well. It begins to blossom about harvest time and lasts till frost comes. Catnip is a good plant, and blossoms from July 1st till frost. H. M. NOBLE.

Henry Co., Iowa, Sept. 15, 1875.

MR. EDITOR:—In answer to your request in the Sept. No., of THE AMERICAN BEE JOURNAL, I will say:

1. From July 2nd to 31st, I increased 33 per cent.

The bees commenced to store honey in boxes, about the first of August. On Sept. 12th, I took 130 pounds of box honey from them.

2. I think, I have on my hives five or six hundred pounds at this date. My bees are all in good condition for winter, and I presume the season has about closed.

3. The three best honey plants in my locality are mustard or rape in flax, which blooms about the 12th of June and lasts about three weeks. Corn tassels, about the 25th of July. Wild ladies'-finger, about the first of August, also buckwheat.

All bloom at the same time, and furnish some honey at this date. Wild artichokes are perhaps the best pasture at present, and will continue until frost.

T. N. MARQUIS.

Iroquois Co., Ill., Sept. 17, 1875.

ANSWERS TO QUESTIONS in the September number:

1. Bought seven colonies of bees last spring (hybrids) from Shearer; paid $100 for them. Have now 13 colonies, all in good condition. Have taken 200 ℔ linn honey and 600 ℔ buckwheat honey. The early part of this season was very bad. The grasshoppers killed everything. The fall is good.

2. The honey season is about over now; with plenty of stores to winter on.

3. Linn, white clover and buckwheat.

4. Can not answer, as this is my first experience. P. H. BOHART.

Platt Co., Mo., September 16, 1875.

IN the past season we had a large crop of white clover, and just at the time when we felt sure of a large crop of honey, heavy showers of rain came upon us and washed the blossoms off. As basswood did not yield us much honey, and but little buckwheat is raised in this section, our hopes were blasted. We got but a little more than a half of crop of honey, and only about one half of our stocks swarmed.

We have many kinds of honey-producing plants, but we depend mostly on white clover and basswood for our honey.

Our first honey comes from apple and other fruit blossoms, about the last of May. White clover comes on about the middle of June, and lasts until August, basswood in July, buckwheat from the middle of August to the first of September, and then comes in yellow weed, golden rod and some other weeds; this allows the bees to gather some honey up to about the tenth of September, but not more than they use after August.

I think bees have plenty of stores for winter, and are generally in good condition in this section. I now have 130 stocks. R. BACON.

Oneida Co., N. Y., Sept. 20, 1875.

THOMAS G. NEWMAN—*Dear Sir:* In reply to your "Special" in the Sept. No., I will report:

1. Not good, had to feed a part of my stocks during the summer, up to August 1st. From August 14th to September 1st, they filled the hives *full* and stored some in boxes, and swarmed during that time, and up to 12th of September, most of them returned.

2. Do not expect any more surplus. The nights are too cold.

3. White clover, basswood, and hearts-ease.

4. May 25th for clover, which lasts from four to six weeks. Basswood in July, which yields honey for about 12 or 15 days. Then nothing special till the middle of August. We then have hearts-ease, which lasts till the first frost.

E. H. MILLER.

LaSalle Co., Ill., September 18, 1875.

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1. My bees did rather poorly till August 20; since then first rate. Commenced with two colonies in the spring, have now twenty-five of which I purchased lately. All but a few nuclei are quite strong. Have extracted over 100 lbs and am adding to it daily.

2. Prospect very good.

3. *Upatorium alba*, August 20th, September 25th; Spanish-needle, September 1st to October 1st; lady-finger, hearts-ease and big smart-weed, from August 20th till frost comes. W. ARMS, M. D.

Perry Co., Ill., Sept. 14th, 1875.

MR. EDITOR:—The season has not been as good a one for bees in this section as it was last year.

I commenced the season with 18 colonies, two of them very weak; have taken up to date 27 swarms, mostly natural, 1,122 lbs extracted honey, and 133 lbs comb honey. I shall take yet, at least, 200 lbs comb and extracted honey. Mine are mostly black bees.

The three best honey plants here are: white clover, basswood and buckwheat. White clover commences about the middle of June and yields honey probably on an average three weeks. Basswood commences the 20th July and yields honey about two weeks. Buckwheat comes on right after basswood. From that and wild flowers, we generally have honey till frost.

J. I. PARENT.

Saratoga Co., N. Y., Sept. 10, 1875.

I began this spring with one stand, I lost the others in the latter part of the winter. I have taken 31 lbs of honey in boxes. The last two I found were not quite full, so I put them back, and in the last two weeks they have taken almost all the honey out of them. They did not send off any swarm until the 19th of *last month.*

"The prospects for the balance of the season" are a colony to feed. They are in a Langstroth hive, have about half filled three frames and have brood nicely started.

Fall flowers just now are abundant. White clover is, I think, our best honey plant. That and fruit blossoms of various kinds. Bee-keeping is not much of a business in this part of the country, and attention to honey-producing plants is not an object. There is very little buckwheat to be seen. J.

Chester Co., Pa., Sept. 10, 1875.

ED. JOURNAL:—Answers to your questions in September number of AMERICAN BEE JOURNAL

1. About 25 lbs per hive surplus and increase of ½.
2. Good.
3. Poplar, linn and white clover.
4. Poplar about the 1st of June, lasts two weeks. White clover from May 20 till July 10. Linn from July 5 to 15. Not always a sure crop, but *very* good this season. E. W. HALE.

Wirt Co., W. Va., Sept. 8, 1875.

In response to the call in your September number, I have to say that, contrary to the general report, the honey season in this vicinity has been favorable.

This being my second year as an apiarist, and having no educator, my bees could not be expected to do any thing very large. I took from the cellar, in the spring, four hives (Italian bees) and divided, May 30th, making eight.

July 6th, one hive swarmed, and another a few days after. At this time the clover honey was coming in very briskly, and at the same time, part of the hives became cramped for breeding room. Two of them had at one time almost no brood.

The 13th of August my heaviest young hive sent out an immense swarm. After having hived it, I gave it no attention till September 1st, when I found it full of comb, honey and brood in all stages. I took off my first surplus, July 28th, I have taken off three hundred pounds to date and expect from sixty to a hundred pounds more, if the fall is favorable.

I think this a fair yield considering inexperience and the condition of my hives generally. Two of the divided stocks having failed to mature their queens, and two swarming just as they were nicely established in the surplus. I intended when I divided that, that it would be all the *swarming* necessary.

The principal honey-yielding plants are, white clover, which blossoms in June, and, this season, is still in blossom. Buckwheat which yielded till August 21st, and then congealed. Golden rod is a fall honey-yielder. I have seen bees on catnip for six weeks or more, but as to whether it is plentiful enough to yield much honey or not, I cannot say. Three miles east of this village, forest trees abound, among them, bass-wood, which would doubtless in its season, pay an interprising beeist with a large apiary and diligent extracting.

C. B. BILLINGHURST.

Dodge Co., Wis., Sept. 13, 1875.

Bees in Northern Iowa have done well since July 15. Then basswood came in blossom, and lasted twenty days—five days longer than usual. I extracted 7,000 lbs. in ten days, and will have 1,500 lbs. comb-honey. The hives are all heavy, and still they are gathering more honey than they use. They are now killing the drones, and are breeding rapidly yet, and are in splendid condition for wintering.

J. W. LINDLEY.

Mitchell Co., Iowa, Sept. 16, 1875.

I sold my bees down to fifty swarms last spring. I have now one hundred and ten swarms, mostly pure Italians. It has been a poor season for honey. They made honey just fast enough to breed. All that I divided in June, have thrown off large swarms. They are now to work in boxes for the first time this season. I don't allow any hive to swarm but once, if we have good weather. Through September I will get some box honey, and all will be in good condition for wintering. FRANK SEARLES.

Will Co., Ill., Aug. 29, 1875.

I have obtained good amount of bee knowledge from THE AMERICAN BEE JOURNAL, and, I think now, that I could not get along without it. I put out last spring seven Italian swarms, have now twenty-one, and have taken 600 lbs of honey, mostly extracted. I think it has been a very good season for bees here, so far.

The prospects for the balance of the season is good. We have had no frost here on the river to hurt anything; yet the woods are full of fall flowers and bees are gathering honey very fast now.

Our three best honey plants, *I think*, are basswood, wild balm and white clover. Clover blossomed about the middle of June and is still in bloom. Basswood about the 10th of July, and lasted about fifteen days. Balm is in bloom now. This is the first year I ever attempted to study the habits of honey-producing plants, so I can't give you much upon the subject.

I tried bee-keeping for a long time with common bees, but could not get ahead. One year ago last spring, I obtained an Italian swarm and Italianized my bees, and have gone right ahead without trouble. If I was to start again, I would rather pay $25 for an Italian swarm, than to have a black swarm for nothing. I use Langstroth hive, frame 10x16, eight frames to the hive. I am going to put on another story, next year, just the same size, to extract from. H. F. WALTON.

Grant Co., Wis., Sept. 6, 1875.

DEAR EDITOR:—I wintered 19 colonies of bees in good condition, from which I obtained 32 natural swarms, having now in all 51 colonies. I have extracted over a ton of honey, up to date—the honey nets me 20 cents per lb at home.

Counting each swarm of the increase worth $10.00, as I can sell at that price readily for cash, the figures stand:

32 swarms @ $10.00 ..... $320.00
2,000 lbs. of honey @ 20 cents 400.00

$720.00

The above figures show for themselves. —The prospect for a further surplus yield is not flattering, owing to a light frost on the 22nd of August which injured the honey-producing plants and for the last 10 days the weather has been rainy, keeping the bees at home from their labors. However, if the weather becomes warm and clear, I anticipate quite a yield this month.

Our three principal honey-producing plants are: white clover, basswood, and golden rod.

White clover begins to blossom about the 10th of May and continues till September, but the bees will leave it for the basswood, which blossoms about the 15th of July and continues about 8 or 10 days. Goldenrod blossoms about the 15th of August and continues till the frost. We have many other native trees and plants of minor importance, and with a judicious selection of cultivated plants that yield honey, selected with a view to fill up space, where the native plants fall off in yield, this may be counted a very fair country for bees.

In connection with the above I would state, I have not given my bees the attention they ought to have; as the time allotted to work with them has been in the morning before 8 o'clock, and in the evening after 5. The remainder of the day I have been occupied in my office.

I notice, that a note I wrote in relation to the foundation-comb, found its way into the JOURNAL. I would now correct a statement which I then deemed to be a fact, viz.: I thought the price too great for its use with profit, except by cutting into inch strips for starting, but as I have now given it a full trial for one season, I firmly believe that if I had bought $50.00 worth for the use of my young swarms and for the surplus sections to my hives, I would have taken at least $200.00 worth, or half ton more of honey, besides the benefit of getting perfectly straight comb, without any trouble. The foundation comb is a great invention, and I shall buy liberally of it next season.

I bought a tested Italian queen from Mrs. Tupper this season and it is the handsomest and most prolific queen I ever handled, and I have handled many.

I. INGMUNDSON.

Mower Co., Minn., Sept. 6th, 1875.

I commenced with 17 swarms this spring; have increased to 44. I think they will give about 100 pounds of honey, on an average, not so much box honey as last year. I think the cause is the cold nights. There is an abundance of white clover and basswood, and plenty of wild plants that they work in the fall.

JOHN CARDINAL.

Brown Co., Wis., Sept. 15, 1875.

DEAR JOURNAL:—In answer to your request, I would say that I had twenty hives of bees in the spring, and on the 15th of June, I divided a part, and on the 25th they began to swarm, and on the 25th of July the last swarmed. I have in all, now, twenty-six new hives. The white clover being killed in the winter, my bees did not make much cup honey, not to exceed 300 lbs. There was no basswood trees near us—teasles and buckwheat are the main flowers here. My neighbors, who live near linden trees, have done much better. Best honey is worth 25 cents, and poor 16 to 20 cents.

A. WILSON.

Onondaga Co., N. Y., Sept. 5, 1875.

EDITOR AMERICAN BEE JOURNAL:—As you request, and say you mean me, I write. And if I say too much, please attribute it to the fact that I am but a novice in apiculture. My success has been as enormous this year as my failures have been in years gone by. I commenced with three stands, last spring. I have fourteen now, with enough bees for five more. One early swarm went to the woods, and I put two swarms back in the hive they came out of, as I want surplus honey instead of so many bees. But I shall make about two more swarms yet this fall. I presume you can guess I have not got much surplus honey, probably 100 lbs., and if we have a late fall, for which we have a prospect, I will get 400 lbs. more. I have not used the extractor much, owing to my bees breeding so profusely. Here, we almost invariably get our surplus honey late in the season.

I think golden rod is the best honey plant here. When we have a wet year, smart-weed is probably the best. Where buckwheat is sown it generally furnishes a fair yield of honey. White clover is getting plenty, but does not amount to much as a honey plant. We have rather plenty of linn that once in a while does splendid. This year its bloom only lasted for a day or two. The corn tassel formed a fair supply of honey and pollen. But smart-weed is ahead, this year, of everything in this locality.

My bees are hybrids; some stands tolerably good Italians, some nearly black. This has been the best year for profitable bee-keeping we have had for several years. But observation and experience has taught me to make haste slowly, in this locality, as our seasons are too variable to make apiculture a sure and successful avocation. ISAAC S. BRYANT.

Harrison Co., Mo., Sept. 6, 1875.

In accordance with your request, I send you my experience and prospects for the present year. I came out of the winter with but one stand, but I resolved to make the most of *it*. It had honey enough to carry it into the working season, but I fed it daily about a gill of sugar syrup until fruit blossoms came, and for some time afterwards, on days that they could not work out-doors. On the 15th of June it swarmed, and I gave the new swarm a frame of brood from the parent stock. This gave me No. 2. June 24 it swarmed again, giving me No. 3. On the 28th it swarmed again. On the same day I divided No. 2, and gave one part a card containing a sealed queen cell from No. 1. Thinking it about time to stop any further swarming, I resolved to destroy all the surplus queen cells in No. 1; but on opening it I found them still strong in numbers. I changed my mind, and after taking the above mentioned card, I closed it up. But before I got through, the swarm last came out came back. This left me with fear. On another occasion a swarm came out and went back. On the 26th of August No. 4 swarmed, and September 3, No. 3 swarmed, which gave me No. 6 from the one original stock, and all are strong in numbers and are gathering pollen vigorously. All except the last two, judging from the weight of them, will keep themselves over winter. I think I can well afford to feed the last two, but if frost stays off till the 1st of October, I think, they will make enough to keep them. I have had no box honey, but the old stock are beginning to work in one box. If I get no surplus, I think, I am doing well enough. The general cry here is, "I never saw so poor a year for honey," but I do not think so. If honey had been more plenty they would perhaps have filled their combs with honey to the exclusion of brood raising. Had there been less we would have had but little honey or increase. I attribute my success to spring feeding. And now for my plan of feeding: I bored an inch and a half hole through a block of soft maple wood, lengthwise; planed it down to two inches square; made a hole in the honey board to fit it; placed a piece of muslin over one end and inserted it, and poured the syrup in the other end. Am I infringing on anybody's patent? Have never seen any of the patent feeders.

The three best honey producing plants here are the white clover, alsike and motherwort, though the latter is not very plenty. The only one that I know of getting any surplus honey, is one living in the vicinity of the motherwort and the dreaded milk-weed. I tried a patch of rape, but it did not meet my expectations. The alsike clover is excellent while it lasts, but it will not produce a fall bloom unless cut very early. Next year I shall cut part of mine about the middle of June, as an experiment. J. C. ARMSTRONG.

Marshall Co., Iowa, Sept. 5, 1875.

The last winter and spring was the hardest winter and spring on bees I have experienced. In twenty years' practice with the moveable-comb hive, fifteen years queen raising, I never met with such a fall, winter and spring as the past one. Bees stopped breeding early in the fall; I went into winter quarters with old bees; I then supposed we would have weak colonies in the spring, which was the case. On my return from the convention at Pittsburgh, I got a fall which crippled me so that I could not give my bees the care they needed for two months. In the winter they had to care for themselves; out of seventy-six colonies I had but forty-two left in the spring, and they commenced

breeding finely, but the cold snap in April came and froze the brood. They dwindled so that I had to double up, so I had but thirty left to commence with, and weak at that. I procured a few stocks of black bees; they gathered only enough to keep breeding, but gave but little surplus. I increased them to eighty full stocks and thirty-two nuclei.

The clover and basswood yielded honey but a short time, on account of so much rain; but bees are rapidly collecting honey now from fall flowers, and will give considerable surplus, if it holds favorable for a few weeks longer.

G. W. ZIMMERMAN.

Henry Co., Ohio, Sept. 8, 1875.

MR. EDITOR:—In response to your request in the September number of the A. B. J., I would say:

1. This has been the best season for honey we have had for several years. It was too wet for three weeks in July, but since that it has been splendid. I had a swarm the 2d of August, and now it will weigh eighty or ninety pounds. I think from the present outlook I will get from thirty to seventy-five pounds per hive. I kept my hives well shaded, and gave them plenty of room, consequently they have not swarmed much.

2. The prospect for the balance of the season is good.

3. White clover, smart-weed and Spanish needle.

4. Clover begins the last of May, and if not too dry, lasts till frost. Smart-weed begins the middle of July and lasts till frost. Spanish needle, the middle of August, and lasts about three weeks.

SAMUEL W. LORD.

Macoupin Co., Ill., Sept. 4, 1875.

I commenced last spring with one stand, and now I have seven good, strong swarms, all doing splendidly. I would have had eight, but one swarm I could not prevail upon to settle; that, of course, I lost. Have stopped one swarm's issuing by cutting out queens' cells, and am now trying another, as it is so late, but the honey harvest is splendid, and has been for over a month. They all have their hives filled. The last swarm issued August 23, and it has four racks nearly filled. I have turned the boxes on hives that are full, and some are beginning to make comb. If the honey season lasts, or if it remains warm through this month, I expect to take surplus honey. I fed during the wet weather in the spring, until after the second swarm. I fed just whenever I thought the rains had been of sufficient length for them to consume their little stores. For our rainy days far out-numbered our pleasant ones—days that they could not work. MRS. HATTIE SMITH.

Bureau Co., Ill., Sept. 4, 1875.

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1. Bees in this section have done exceedingly well this season, especially since the middle of July. I had eight swarms of pure Italians in tolerable condition, wintered in the cellar. I let them out March 29, 1875, the outer combs somewhat mouldy. First swarm, May 25; second, June 2. Spring cold and backward. Middle of June our wet spell commenced, when bees could do but little. Although I made several swarms by artificial means, yet they seemed hardly to make a living, until about the 1st of August, since which time the weather has been very favorable—quite warm, with heavy dews. My increase in stocks has been far beyond my expectations, (from eight to twenty-five, besides three that ran off to the woods,) one swarm as late as September 20. With one or two exceptions they are all strong in bees and stores, some weighing two hundred pounds or more.

2. Bees may or may not gather more stores. We have had no frost as yet, but to-day the weather is cooler.

3. Buckwheat is our best honey plant, this season. Clover the next, and third, the innumerable wild flowers growing in our weedy cornfields, and along the roadside. A. U. CROSBY.

Marion Co., Iowa, Sept. 11, 1875.

My bees have done well, both in swarms and honey. I bought seven swarms this spring, and have increased to sixteen swarms; they are doing finely in boxes. I have some hives that I shall get 130 lbs. of honey from. The honey season is almost over. I shall take my honey off next week.

Honey plants, fruit blossoms commence May 15 to 20, and continues from fifteen to twenty days. White clover commences June 10 to 20, and continue till the end of July. Buckwheat commences August 1, and continues till September.

AMOS B. SIMPKINS.

Schoharie Co., N. Y., Sept. 4, 1875.

It has been below an average honey season, with very few natural swarms.

It has been very dry in this locality for some time past, which cut off the supply. About the only remaining resource is boneset, of which there is considerable in this section. No buckwheat is raised here. I predict serious losses, unless prevented by judicious feeding.

White clover, poplar and linden.

This season, the white clover and linden yielded but little, probably not as much as raspberry, of which there is a large amount, both cultivated and wild. There is usually an abundance of fruit blossoms for early pasturage, but the fruit crop was a total failure this season, while the weather often prevented bees from working while the fruit trees were in bloom.

WARREN PIERCE.

Portage Co., Ohio, Sept. 3, 1875.

DEAR SIR:—In answer to your questions: 1. I have taken 3,000 pounds with the *extractor*, and 1,000 of box honey. I wintered eighty stocks and sold three in the spring, leaving seventy-seven. They increased to one hundred and four. I sold six new stocks in July, leaving ninety-eight. I only intend to winter eighty stocks this winter

2. They are filling up for winter now.

3. The three best honey plants in the locality are *white clover, red clover and buckwheat.*

4. White clover about the 15th of June until the 15th of July. Red clover, second crop commencing 15th of August, continuing until 5th of September. *Buckwheat*, nearly the same as *red clover.*

E. BROWN.

Norfolk Co., Ont., Sept. 13, 1875.

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1. In the spring had five good swarms left, losing two in springing and by robbing. March 22 two of the stocks lost their queens, and it was about *three months* before I got good laying queens. Raised one batch, no drones, queens good for nothing, of course. Second lot fertilized all right, began laying, soon stopped, and the bees raised a new lot, which are all right. Bought two nuclei stocks, and made three new ones. Now have ten good stocks, two whose new queens will soon be laying if all goes well. Just honey enough to keep bees breeding nicely, with a little feeding, till August 8, when buckwheat began to bloom. Since then, bees have filled their hives full enough for winter, and we have taken 95 lbs. honey, all told, while keeping the brood nest free from honey.

2. The prospect for the balance of the season is good. Having eight acres of buckwheat still in bloom, with an abundance of heart's-ease and small amounts of aster, golden-rod and white clover, if we can have a few weeks of good weather, to get it.

3. Our best honey plants are buckwheat, heart's-ease, white clover and basswood. The first one gives us a good yield, then the other, then both, though I know of but five basswood trees in reach of our bees. Neither white clover or basswood comes up to buckwheat, with us. White clover began to bloom May 19, 1874, and June 9, this year, and we still have a considerable of it in bloom now. Heart's-ease began to bloom July 11, and continues till hard frosts come. Buckwheat begins about August 8, and blooms till frost comes, generally.

WILL M. KELLOGG.

Knox Co., Ill., Aug. 5, 1875.

In this section of country bees had done very well till August 22, when a very severe frost killed most of our honey-producing plants. We began the season with fifty-eight stocks, some quite reduced in numbers; have increased to ninety-six, mostly in good condition. We will probably have from 1,500 to 2,500 lbs. of surplus box honey. Chinese mustard, catnip and mignonette will continue in bloom until very cold weather; furnishing a sufficient quantity of honey to keep the bees in a prosperous condition and store some surplus honey.

Chinese mustard, mignonette and common mustard are our three greatest honey-producing plants. They are of easy culture, and will withstand very heavy frosts without injury. We have a field of Chinese mustard, sowed May 5, and it is still in bloom and swarming with bees, besides it is a most remunerative field crop. Mignonette, sowed May 5, was first visited by bees July 10. It is in full bloom and literally covered with bees. Common or brown mustard, sowed May 28, began to yield honey, July 17, and continued about fifty days. It is much inferior to the Chinese in every particular, but is profitable also as a field crop; it ripens unevenly and shells badly. CHAS. F. LANE.

Rock Co., Wis., Sept. 6, 1875.

My success in bee-keeping the present season is as follows:

Last spring I had ten swarms, have had nine new ones in all 19. About 300 pounds of box honey, up to the 22d of August. While the buckwheat was in full bloom, we had a frost that put a stop to all honey-gathering for a few days; but now (Sept. 9th) it is wet and warm and the white clover is coming in blossom again, and the bees have again resumed the surplus boxes and are working finely. My bees are all black.

White clover and buckwheat are our only dependence for honey. There are, at present, some small flowers such as catnip, heart's-ease and malice. White clover comes into bloom about the 20th of June, and lasts from two to six weeks. Buckwheat is sown here about the last of June, and is in bloom about the middle of August.

CHAPIN ALDRICH.

Rock Co., Wis., Sept. 9, 1875.

There was no surplus honey during the whole season until August 15 to 20, caused undoubtly from continuous wet weather, but from the 20th of August to 9th of Sept. the flow of honey was very good, but since the last date, they have done but little in boxes. I have taken 320 in boxes *finished*, and about 450 in boxes not yet full, but will be in eight to ten days, if heavy frost does not cut off the flowers.

August 28, extracted the first, and to yesterday Sept. 15, have taken 1,503, and all the hives extracted to Sept. 8th, are full and sealed, and those since, are in a very fair condition to fill up in a few days. I

am taking from 60 to 100 lbs. daily, and will continue as long as the bees are gathering the present amount. They are working splendidly this P. M., it being warm and pleasant. After another heavy rain last night.

The best honey-producing plants in this section are white clover, linden, smartweed and Spanish needle. Buckwheat is usually good, but little is cultivated in this vicinity. White clover generally begins to bloom 15th to 20th of May, and continues till frost. It has been in its prime since August 20th to Sept. 10, (this season is an exception). Linden about Jun. 20th to 25th (varies 10 to 15 days some years) and continues 10 to 12 days. Smartweed, very abundant, begins about August 15 and continues until frost. Spanish needle grows chiefly after harvest and summer *plowing* (quite plentiful) and is now in full bloom, and continues until frost.

Other varieties of honey-producing plants, such as are found in an agricultural and fruit region are abundant, and yield more or less honey in their seasons.

WM. REYNOLDS.

McLean Co., Ill., Sept. 16, 1875.

DEAR EDITOR:—As requested in the September number, I send answers to your questions:

I commenced the season with 66 swarms, seven or eight quite light, have but just built up, have increased to 138 swarms. From 38 swarms (ten of them young ones) with the extractor, I have taken, up to the first of August, a trifle over 5,100 and about 500 of comb honey. I shall probably get three or four hundred more when I put up for winter.

The three best honey plants, are white clover, basswood and golden-rod.

Clover blooms about the first of June and continues, if not too dry, until September. Basswood usually blooms about the 10th of July and lasts about ten days. This season it did not bloom until about the 15th and bloomed about two weeks. Golden-rod blooms about the middle of August and is in bloom about three weeks.

A. H. HART.

Outagamie Co., Wis., Sept. 15, 1875.

Bees in this locality gathered but little more honey than they consumed up to the twentieth of August. Since that time up date, they have nearly filled up there hives with honey, and stored considerable in surplus boxes. White clover is our main source of honey, was nearly all killed during the past winter. Fruit bloom was an entire failure with us. There is but little basswood or linn here, except on bottom land along the streams. What little we have, generally produces abundance of honey, but this year it rained nearly all the time it was in bloom.

I consider the basswood or linden the best tree we have for honey, and should be extensively propagated by every bee-keeper. It is easely propagated by transplanting from the woods or from the seed. Trees that I transplanted from the woods three years ago, were full of bloom this year. This tree comes in bloom about the tenth of July, and remains about two weeks. I have so much faith in it that I intend to plant several bushels of seed this fall, and set out wherever I want shade trees, or have waist land. Alsike and white clover are the best cereals we can cultivate for producing honey I would recommend mixing alsike and white clover seed with all grasses sowed on the farm.

AARON BENEDICT.

Morrow Co., O., Sept. 7, 1875.

Bees in this vicinity wintered very poorly on their summer stands. Some bee men losing all or nearly all they had. I put into my bee-house last fall 35 colonies. When I set them out this spring I had lost two, but I afterwards lost five more through the month of April, on account of a very cold snap. Bees did nothing during the time of fruit blossoms. Fruit buds being nearly all killed by the frost.

White clover began to blossom about the first of June. Bees began building up very fast. Rather too much rain for bees to do well. Bees are yet working on white clover. Bees have begun working on buckwheat, they come in so heavy loaded they can hardly reach the hive. I sowed a small patch of rape this spring. At this writing the bees are busy at work on it.

Taking this season all through, bees have and are doing better than for several years past.

My bees have stored a fine lot of box honey. I have never used an extractor but am confident it would pay many times over. I now have forty colonies in good condition and a number of nuclei hives containing four frames of comb. No preventing providence, I expect to go into winter quarters with fifty colonies in good condition, and a nice lot of box honey.

LEONIDAS CARSON.

Mahoning Co., O., Aug. 15, 1875.

MR. EDITOR:—I will give you my experience in bee-keeping this season:

This spring I began with thirty-three swarms; six of them quite feeble, and twenty-seven fair. May 20th my first swarm came out, and the 30th a second one from the same hive. From that time the rest continued to swarm until Aug. 18. Now I have ninety swarms, with plenty of honey to carry them through till flowers come again, but it needs to be equalized.

My bees are not in very good condition for wintering, some are *almost* destitute of

brood and quite a number entirely so; about half a dozen have no queens. It is now so late in the season, I hardly know what to do for them.

I have extracted 610 pounds of honey, have 540 pounds in box, making 1150 pounds for the season. This year has not been favorable for the production of honey. The hard winter and severe spring having killed almost all the white clover, and fruit blossoms were scarce. Basswood was good for six or eight days, but buckwheat was not very good, in consequence of cold nights. My bees are hybrids.

L. BURDICK.

Kalamazoo Co., Mich., Sept. 18, 1875.

ED. AMERICAN BEE JOURNAL:—Supposing myself included in your request for a bee and honey report, I respond as follows: Commenced the season with 10 stocks in American hives, none complete. I had eight frames, one four, and the rest, five, six and seven, I cannot say exactly as to each one. Nine frames complete the hive, I now have 40 colonies, 15 in double American hives, of 18 frames, and four in single hives full and one of five frames, all strong in bees, but I do not think they have enough stores now to winter on, but the prospect is they will have a great abundance and an overplus, if frost holds off awhile longer. I have taken 2186 lbs of extracted honey and 250 lbs of cup honey. Had three first swarms go to the woods.

As to our honey plants and their time of yield, I am hardly competent to tell.

We have almost everything that yields honey in its season, though the bees got no surplus from fruit this year. Two thirds of the honey was gathered in August. I would have waited and written a complete report after the season was over, and bees in winter quarters, but since you asked for an October report from all, I give such as I can and as far as I can, to date. MRS. M. A. BILLS.

Hillsdale Co., Mich., Sept. 14, 1875.

Our natural resources for honey, on the prairie in the latter half of August, is the golden-rod, and another weed resembling it. Also he summer catnip, smart-weed and Spanish needle. Our cultivated resources are: buckwheat, raspberries and the clovers and mustard. I have now six strong colonies from two strong ones last spring. All the honey stored was by a July swarm, 24 lbs. The season has been too dry or too wet, nearly all the time.

S. W. HALL.

Marshall Co., Iowa, Sept. 14, 1875.

MESSRS. EDITORS.—According to request, I send you a report of my apiary. I commenced the season with 75 colonies in fair condition. There was no dwindling among them; but they got strong in May, when alas! there was no honey for them to gather. Locust, clover, and basswood were nearly a total failure. Bees did not get enough for breeding purposes, till buckwheat came into bloom, when they commenced breeding rapidly. This has been the poorest season for queen rearing that I ever saw. By considerable effort my colonies were all supplied with daughters of my imported stock. They are the best I ever saw; not a single sorry queen among the whole. I have taken 6,500 lbs. of honey; the largest yield from any hive is 120 lbs; average 86; with us the season has closed.

We have white clover, basswood, Spanish needle, and smart-weed, and many other blossoms of minor importance.

Clover usually commences to furnish honey about the 20th of May, and lasts about five weeks; basswood about the 20th of June, and lasts ten days; smart-weed about the 10th of August, and lasts about four weeks; Spanish needle about the 20th of August, and lasts two weeks.

We have increased our colonies this season about 50 per cent. and more than doubled our combs. We shall have about 110 to 115 colonies to winter.

E. C. L. LARCH, M. D.

Boone Co., Mo., Sept. 14, 1875.

Our season, to 1st of August, was very poor, giving very little surplus. Since that time to date, I have extracted one bbl, about 400 lbs, and my hives are very full now; in fact every cell is full, and as fast as a young bee hatches out, the cell is filled with honey, before the queen can have time to deposit an egg.

Fruit blossoms, white clover and fall flowers, mostly smart-weed, are our best honey-producers. Fruit blossoms commence about 10th of April, and continue till about the 1st of May; then white clover commences about 1st to 15th of May, and continues till about 1st of August, if not too dry; and then our fall flowers (various) continue till frost. We have other varieties, but these are the principal ones. Wishing success to your JOURNAL, and that it may never grow less. WM. G. SMITH.

St. Louis, Mo., Sept. 3, 1875.

In answer to the inquiries in the last issue of THE JOURNAL, let me say:

1. We have had a fair yield of honey, up to date. I had only four swarms from 30 colonies.

2. Not flattering; too cold; slight frost this morning.

3. White clover, 1st of June; lasts for about 25 days; yields honey.

Linn or basswood, from June 25 to July 10,—15 days.

Buckwheat, 30 days for the same sowing. WM. HEALD.

Van Buren Co., Iowa, Sept. 18, 1875.

I had 40 stands in the Spring; 62 at this date. 1,500 lbs. box honey; extracted 350 lbs.; probably will take 200 more. Raspberry and white clover are about equal.

Raspberry blooms from June 1st to July 1st; clover from June 1st until September 1st; basswood blooms July 20th, and lasts two or three weeks; buckwheat blooms from August 1st to September 1st.

GEO. H. SPRAGUE.

Steuben Co., N. Y., Sept. 11, 1875.

Linden, white clover and fruit blossoms, *usually*, afford us honey. This year linden and fruit blossoms were almost an entire failure, leaving white clover, golden-rod, "heart's-ease" or smart-weed, and black locust. Four miles west of here, buckeye, white clover, heart's-ease and golden-rod produced honey in this order.

J. E. RICHIE.

Allen County, Ohio.

DEAR JOURNAL:—In answer to the "Special" questions to your readers, I will say:

1. Honey and swarms are a failure. Had twelve colonies last spring; no increase. Did not gather enough to breed without feeding till buckwheat came, and shall have to feed for the winter.

2. The above answers this.

3. White clover, locust and catnip.

4. This is my first season here, and the clover and locust yielding no honey, I can't answer. Catnip began to yield honey in June and continued till the first of this month, but only a little, not enough to furnish a supply, although there is a large quantity of it here.

I am just outside Cincinnati city limits, ¾ of a mile from the little Miami river, and the same distance from the Ohio river, and about seven miles from Chas. F. Muth's.

My colonies are strong, but I have a constant fight with the moth.

A. B. MASON.

Hamilton Co., O., Sept. 17, 1875.

DEAR SIR:—In answer to your "Special" to readers, I would say:

1. The season has been very unfavorable to both honey and swarms. The frost and cold late spring prevenred the bees reaching swarming strength, or prevented swarming if they did reach it, (except a few strong stocks) until the last of June or 1st of July. The blooming of the sourwood, together with the honey obtained from sumach, second crop of white clover and persimmon, brought swarms from such stands as had *almost* reached swarming strength in May. Such swarms, and the stocks throwing off the swarms *must be fed* in this locality, through August, to have them in proper condition to gather enough honey from fall blooms, to spare their owner some honey and pass safely through the winter; and the man that refuses to feed such swarms and old stocks, is "penny wise and pound foolish"! I have taken only 100 lbs of honey from 44 stocks; have had 26 swarms, and lost one.

2. Prospect for the balance of the season is good, if brood rearing is kept up through August; bees here *invariably* get rich in September and October, and you can winter and spring them without housing or further attention.

3. The best three honey plants, I think, are poplar, white clover, and still-weed or aster. The aster, our great and reliable honey plant, commences secreting honey 15th to 17th of September, and continues till killing frosts, *and a few days after*, usually about 30 days. I cannot give the dates of the others. W. H. RIGGS.

Hamilton Co., Tenn., Sept. 14, 1875.

I started in the spring with 12 stands of bees; increased to 27, by both natural and artificial swarming. Had to feed as late as July 1st. Bees gathered little honey till buckwheat bloomed. Have had swarms store over fifty pounds of surplus from that source, and they are still bringing it in.

Golden-rod bloomed about the middle of August. Am using small frames for surplus and am extracting the buckwheat honey from them, with the expectation of having them filled with golden-rod honey.

Our best three plants for honey are the white clover, buckwheat and golden-rod. I find the bees work very freely on catnip and alsike clover. Have planted nine acres of alsike, and ½ acre of melilot. Have not observed closely enough to be able to state the time of blooming.

E. A. ZIMMERMAN.

Cook Co., Ill., Sept. 4, 1875.

MR. EDITOR:—In reply to the questions propounded in the September number, I would say:

1. Up to the time the rains set in, my success was all I could wish; since that time bees have done little or nothing. I had, in the spring, 66 colonies, but reduced them by uniting to 44. Total number of pounds taken, 5,006. Have now 106 colonies of bees but will reduce that number to about 90, in order to have them in right condition for wintering.

2. I expect no surplus honey after this. If like other years, will fill the hive for winter stores.

3. Poplar, sour-wood and fall flowers.

4. The poplar blooms the first week in May, and yields honey from 14 to 20 days. Sour-wood blooms about the 25th of June and yields honey nearly a month. Fall flowers just commenced to bloom at this date Sept. 10th. J. F. MONTGOMERY.

Lincoln Co., Tenn., Sept. 10th, 1875.

Last spring I had twenty-four stocks, mostly weak; and three of them queenless. I have raised twenty-four queens and made seventeen swarms. Bees are now in good condition; prospect fair.

Our principal resources is white clover and buckwheat; and these usually yield honey from four to six weeks. This season the drought cut clover short, and the rain nearly spoiled buckwheat.

GEORGE BALL.

Fairfield Co., Conn., Sept. 8, 1875.

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1. I began the season with ten swarms in good working condition, and have now 25 strong hives, working well.

Was delayed in getting my extractor, so that I did not begin to extract until August 10th, and since then have been busy extracting, until I have in comb and extracted honey 1,000 lbs. The flow of honey has been as good as I could desire, and I hardly see how I could have taken more honey, except by pushing things harder, for the bees have done finely for their part.

2. If frost keeps off two weeks longer, the prospect seems to be good. Myriads of flowers are still in bloom, and the buckwheat I have sown has been very fruitful. There seems to have been no lack of flowers all through the season, and there are few common to the northern states that we have not in abundance.

3. Linn, golden-rod, and prairie sunflower abound; and the variety of prairie flowers is so great, that in fact, it is hard to make any distinction. We have little or no clover, some box-elder, and about the only buckwheat sown is what I have introduced, furnishing seed to any one who would sow a patch. E. H. ROGERS.

Dodge Co., Neb., Sept. 10, 1875.

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1. I have received 1,309 lbs strained or extracted; 95 comb, in all 1,404, from 37 weak stands in the Spring, now increased to 76.

2. Fall flowers here hardly ever yield honey.

3. White clover is the main stay; catnip and fruit bloom.

4. When fruit blooms in March and April and the weather is favorable, bees gather considerable, but so fickle is the weather here, that they never gather more from fruit bloom than to live on until about 10th or 15th May, when the white clover appears in bloom, which in some seasons lasts until July 1st, at other seasons only till about 10th June, sometimes only two weeks yielding honey, others eight or nine, and after that yield, the season is generally over.

Until the cold snap in April, bees had never done so well, and but for that I might have obtained a rich harvest. After that they had nothing to work on for about three or four weeks. The long wet spell, set in while I was in the midst of the honey harvest.

My bees were then kept at home about seven weeks and consumed so much honey that I expect to have to feed three-fourths of them for winter, thus taking the larger part of my profits.

R. M. ARGO.

Girard Co., Ky., Sept. 10th, 1875.

The honey harvest in this section has been decidedly *poor*. What little has been stored in surplus boxes is dark, and even red in appearance. This before buckwheat was planted. Will some Penn. apiarian tell us the source of the honey?

Unless buckwheat furnishes a supply, the bees in this section will have a poor chance the coming winter, unless fed.

D. C. MILLETT.

Holmesburg, Pa., Sept. 4, 1875.

I shall get but little surplus, but average increase in bees.

Poor prospect for rest of season.

White clover, blue thistle and sumac. White clover blooms about May 15, and continuing 90 days; blue thistle blooms about June 1st, and lasts all the season; secretes but little honey after harvest; sumac blooms about July 1st, and lasts about two weeks. D. A. PIKE.

Washington Co. Md., Sept. 8, 1875.

From my home apiary I got no honey till linn bloom; my bees (70 hives, 35 of them two-story) were then in good condition. I extracted 3,400 lbs. I had only 10 swarms (one of them natural). The prospect for the rest of the season is good, my hives are filling up, and some have sealed honey. Poplar in May, linn in June and July, with aster in September and October or later. J. F. LOVE.

Marshall Co., Tenn., Sept. 7, 1875.

We started with 75 colonies, Italians, increased by natural swarms to 125; sold off, down to 60 and increased in Aug., by building up nuclei to 110. Extracted 2,000 pounds.

Prospects for balance of the season is, that we shall get 3,000 pounds of extracted honey.

The best three honey producing plants here are: Wild aster, poplar and white clover.

Wild aster begins to yield honey, 15th Sept., and continues usually until 1st November or hard frost; poplar about 15th May, and continues three weeks; white clover about 1st May and continues two months. BARNUM & PEYTON.

Davidson Co., Tenn., Sept. 4, 1875.

☞ We have many more of these letters, but our space is full, and they must wait for the next number.

Notes and Queries

ANSWERS BY MRS. TUPPER.

We wintered 90 stands of bees in our cellar last winter, and all came out alive but one that was queenless in the fall. The cellar was dry and well ventilated, mercury stood from 30 to 40 the greater part of the time, when it sunk to 32. We would build a moderate fire, there was but very little mouldy comb, but some were affected with dysentery, but after getting a fly seemed to get over it. I lost one out of 48 late in the spring, think they left the hive as there was nothing in it but robbers when first discovered.

My object was to get surplus this season, did not divide but one swarm. It is well I did not, as we have had a very wet season. So far my bees seem to get enough to live on and prevent them from uncapping brood (with but little exception), the greater part of them have brood in all the the combs, but very few *any* honey, mostly one or two in each hive has a little, not one out of the 48 can I find that has any to spare. There was an abundant crop of white clover and considerable yet, and I find to-day they are gaining some. Some of them are very strong, fill their six boxes so full I can seldom see what they are doing, and, lay out badly too. And yet I find they are doing but very little. I have taken out drone comb, put in empty frames, etc., and yet they will leave such spaces empty rather than fill it. All the comb they have built this Spring and Summer would not fill one Langstroth frame. I attribute it to the heavy rains; it has been dry for a week and were it not so *late* would have a *hope* they *might* do something yet. My object in writing was to know thy opinion, (knowing thee has lived in the State a number of years, should it be seasonable will they be likely to gather enough to live on until Fall flowers come,) there will be an abundance of smartweed, (very many fields did not get *plowed at all*,) I see it is coming out now. I am well aware that many would say feed, but I do not wish to go to that expense if they will *live without* it, I am sorry to bother any one, but will feel very much gratified to receive a few lines from thee if convenient.

Keokuk Co., Iowa. L. L. VAIL.

We have seen two just such seasons as you describe, while we lived in Washington Co., and in both of these years bees not only filled up but stored much surplus in August and September. There will be constant bloom until frost, and after then, in wet seasons we always have had hot days, just right for secretion of honey. We have had natural swarms as late as the last of August, and one at least in September that filled their hives, and wintered well. The fact that your bees have plenty of brood, shows that they have been gathering a good deal of honey; they could not rear brood without it. We would not advise feeding now unless in case of a long continued storm—then it may be necessary, to save brood. Damp wet weather seems to encourage brood rearing. Wet seasons in Iowa have been our most profitable ones, counting increase and honey, but we have never before this year seen a season when everything has been so discouraging up to date (July 25). Cold dry weather in spring, followed by constant rain—then, when linden came into bloom, and the weather was all that could be desired, a blight came on that bloom *here* and but little honey was gathered. Still we look for much fall honey, and bees that have been kept in good condition to gather it, will still have a harvest time.

D. L. ADAIR, Hawesville, Ky., writes; "Our bees have done nothing until within the last three weeks. They are now doing wonders."—Sept. 20, 1875.

L. C. AXTELL, Roseville, Ill., writes: "We fed to forty-eight colonies one hundred dollars worth of sugar, from apple blossoms, till the first of August. There seemed to be nothing for them to gather. Apple blossoms, white clover and basswood were all a failure here, but buckwheat promises well, and my bees are in fine condition to gather it, and the hives are crowded with brood."—Aug. 18, 1875.

J. S. HARBISON, San Diego, Cal., writes: "The total crop of 1875 will not be over two-thirds that of 1874, notwithstanding the greatly increased numbers of hives over the preceding year. Cause, drought and cold."—Aug. 18, 1875.

L. G. PURVIS, Sidney, Iowa, writes: "I cannot do without THE AMERICAN BEE JOURNAL, as long as I keep bees, and it remains as good as it is now. Bees are doing well here in both increase and surplus. I will give an account of my success when the season ends.—Aug. 20, 1875.

HIRAM ROOP, Carson City, Mich., writes: "To-day the country is white with bloom, but it is cold yet. I got 8000 lbs. extracted honey from fifty-five hives during basswood bloom. I had 105 stocks running for comb honey, but as the season has been so cold, I have concluded to extract nearly all. I will give you my report at the close of the season."—Aug. 21, 1875.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, NOVEMBER, 1875. No. 11.

Seasonable Hints.

During the month of November, though we may have some warm pleasant days, bees will remain quiet and fly out very little. All work with them should have been done before now, and they be disturbed as little as possible. No feeding of liquids should now be done; it is too late to give syrup. We are certain that much of the fatality among bees has been caused by *too much water* in the food, whether it has been fed to them in syrup, or they take it in the honey, which being gathered late in the Fall, has not lost the watery particles by evaporation. We have seen honey in hives, often in this state. The bees when not able to fly and discharge the fœcal matter, are injured by taking too much water. To avoid this, if it is necessary to feed them, give sugar-candy, instead of syrup. We find this the best way of feeding at all times, when bees are not able to fly out every day.

By the middle or last of this month, according to the weather, and time varying of course with the locality, bees must be put into winter quarters or protected on their summer stands. It is not well to house them too early.

A cold time should be chosen to take them in, and they should be moved easily, so as not to stir them up. We have carried fifty hives into a cellar without a buzz from a bee; and then again by an unlucky jar, a colony has been stirred up so that it did not quiet down for hours.

Under favorable conditions, bees in the winter remain very quiet. Any noise from the hive is evidence of discomfort. As long as you do not hear from them you may be sure all is well; but if a constant noise is heard be sure something is wrong.

Much has been said about ventilation in the winter. We have found that very little is necessary where the bee-quilts are kept on. These absorb the moisture as it passes off from the cluster, and yet prevents all draughts through the hive.

After your bees are put away for the winter, let them alone. To those who winter them out of doors, we can only say: be sure that they have plenty of honey in the hive, while at the same time they have empty comb, in which to cluster. It will require much more honey for those left out of doors, and they should, by all means, be sheltered from the rays of the sun upon the entrances. This is more dangerous than cold or snow, as it tempts the bees to activity in weather too chilly for them to fly. We have all seen bee-hives covered with a snow bank for weeks, without injury. Whether bees are in houses, cellars, or out-of-doors, a quilt, carpet or mat, over the tops of the frames, is a great protection worth many times the cost and trouble.

E. S. T.

At this reason of the year, when we are beginning to feel that winter is near and to desire to keep with us, in our homes, some of the bloom of summer, it is well to know just which plants we can best preserve and how to care for them. "Window Gardening," published by H. T. Williams, of the *Horticulturist*, New York, is valuable authority on the treatment of all house plants. We heartily commend it to all lovers of the beautiful.

☞ Many of our subscribers send a request to Mr. Isham for directions for getting up his boxes. Will he kindly send us such description for the next number of THE AMERICAN BEE JOURNAL?

R. WILKIN, of Oskaloosa, Iowa, has removed to San Buenaventura, Ventura Co., California, with two hundred colonies of Italian bees.

Arkansas and Apiculture.

There is, perhaps, no territory of equal proportions to that known as "the South," that is blessed with so many natural advantages, and that has so many possibilities of material prosperity. We have, in common with many apiculturists of this country, often thought that grand and profitable results of bee-keeping would be reached in that section of country, as soon as its true value became known, and the prejudices of former education had been overcome.

Having received an invitation from the Hon. J. M. Loughborough, Land Commissioner of the St. Louis, Iron Mountain and Southern Railroad, at Little Rock, and Col. T. B. Mills, of Little Rock, publisher of the *Spirit of Arkansas*, to accompany an editorial excursion through the State of Arkansas, for the purpose of seeing with our own eyes, things as they were, and of conversing with its people at their homes—the publisher of the AMERICAN BEE JOURNAL accepted, and started on Monday, Sept, 27, for St. Louis, to join the party.

On Tuesday, at 9 P. M., a special train started for the Sunny South, with 150 excursionists, representing that many of the leading papers of the North-west. The train consisted of a powerful engine trimmed with flags, four Pulman Palace Sleeping Cars, one day car, etc., all belonging to the Iron Mountain R. R.

After passing Moark, we came to Judsonia where a Baptist University is located. It is under the charge of the Rev. B. Thomas, M. A., and gives thorough instruction in all useful branches of learning.

Arriving at Little Rock, the capital of the State, at 2:30 P. M. the next day, we enjoyed the hospitalities of Col. Thos. Lafferty, a whole-souled and successful dry goods merchant of that city.

Here we met unexpectedly our old friend JUDSON AUSTIN, Esq., whose pleasant face and mature counsels cheered and smoothed our pathway fifteen years ago.

We also made the pleasant acquaintance of scores of other gentlemen and ladies—only a few of whom we can now mention in particular, for want of space. Chief among these was GEN. H. A. PIERCE, who accompanied the excursion over the State, and made one of the pleasantest companions we ever had the pleasure of meeting. By the way, the General is interested in apiculture, and intends to enter more largely into the business next spring. He says that he knows of no place in the world that is so favorable to bee-keeping as Arkansas. It abounds with bloom from early in March till December; bees need never be removed from their summer stands, and prosper abundantly with but very little attention. He says that if Northern bee-keepers would come down there with their scientific and practical knowledge, they would do vastly more than "astonish the natives." The General introduced us to several other bee-men, and we enjoyed a pleasant chat with them.

In the evening the citizens of Little Rock got up a magnificent complimentary banquet at Concordia Hall, which was decorated with flags on all sides, as well as mottos of welcome. The tables were loaded with delicacies and choice viands, and ornamented with splendid bouquets, provided by the ladies. This was one of the largest and grandest Banquets ever given in that city.

The guests were all Northern men; but a more cordial reception could not be given to them, anywhere in the world. We were especially pleased at the marked demonstrations of the fact that the "late unpleasantness" was over, and that the bone of contention was buried, and that all accepted the situation; and that now a Northerner was as welcome and just as safe there as in any town or city on the continent.

Speeches and toasts followed; we have no room to report them, but will say that the address of welcome was delivered by Gen. R. C. Newton, in an earnest speech. He referred to the button-hole bouquets with which the tables were so beautifully decorated, and which the guests were not slow to appropriate. He then remarked that he was pleased to have eye-witnesses in the State, that the people might be seen as they are; that their manners, habits, etc., might be observed. He wanted the visitors to come often, and come at last to stay. It pleased him to know that we had an opportunity to show the State and the products and the people. The Northwest and the Southwest were now just becoming known to each other, and he was glad to see it, and hoped it would be continued. The State had been built up by nature as an invitation for pluck, capital and enterprise, and he would say: Come and see us—come, and bring "Yankee Doodle," and "Live and Die in Dixie."

After the Banquet, the party left for Malvern, where we breakfasted, and then went on to the celebrated Hot Springs, where another ovation occurred. The citizen's committee met the party at the terminus of the Narrow Gauge R. R., over eight miles of which we passed, and escorted us to Hot Springs, where every attention and comfort was afforded us, and in the evening there was a grand reception ball at the Arlington House.

Here invalids come by hundreds to partake of the invigorating qualities of these "waters of life." Hot Springs has about 4,000 inhabitants, and is a lively and fashionable resort. We visited Arkadelphia,

and participated in a barbeque, provided by the citizens, and then took a trip towards Texarkana. The train halted in a cotton field, where pickers were busy gathering the crop. Many of our party left the cars and conversed with the colored pickers, and inspected, for the first time, one of the cotton fields of the South.

We then returned to Little Rock, breakfasted, and then the party divided, at its own pleasure. A portion, as guests of the Memphis and Little Rock Railroad, went eastward to see the country between the Arkansas and Mississippi rivers, and the other part, as guests of the Little Rock and Fort Smith Railroad, went west to visit the Arkansas coal fields, which are being newly developed there; of these fields there are several—chief of which is the celebrated mine of the "Ouita Coal Company," Our friend, Thos. Lafferty, Esq., of Little Rock, being the managing director. He accompanied the excursion, and took the party through the mine.

We "went west," and were treated like a prince. Theo. Hartman, Esq., Gen. Supt. of the Little Rock and Fort Smith Railroad, took charge of the party, and no man could do more to make it pleasant and agreeable. Under the able management of such a suderintendent, that Railroad must prosper, and become a power in the land. At every station, the inhabitants were out in numbers, exhibiting the fruits of the soil, and tempting us with choice viands. At one of these stopping-places we saw a cucumber weighing 64 pounds, and measuring 13 by 28 inches; at another, corn 14 feet high; at another, prairie grasses 7 feet high, and wheat and oats of large size; at another, stocks of Japanese peas that had produced 200 bushels to the acre. But space and time would fail us to speak of all we saw: our advice to all seeking good bee-locations, is to go down and see for themselves, and then act on their best convictions.

At Little Rock, the party united, and all flew on the rails of comfort, in elegant palace cars, back to St Louis, having enjoyed the pleasure of an excursion of five days, loaded with pleasant memories, and freighted with incidents and facts about a country which is destined to become one of the best, most congenial and profitable on this continent.

In the language of another, we would say: "The climate of the State—her immunity from cyclones, grasshoppers and other pests, the regularity of her seasons show the adaptation of the State to agriculture. Then, the advantages offered to manufacturing enterprise is palpable, with such forests and coal fields, and raw material of every variety. The mineral wealth of the State is of such a character, and crops out so plainly, that the learning of the geologist may be almost dispensed with for practical purposes. The State government, if not all that could be desired, will certainly compare favorably with any other in the Union."

The party passed a vote of thanks to the Railroads, and to Col. Loughborough, the indefatigable and earnest Land Commissioner, as well as to T. B. Mills & Co. editors of the *Spirit of Arkansas*, at Little Rock, and to many others; but want of space forbids the details. At St. Louis, the party separated and repaired to their respective homes and fields of labor, to tell their readers what they had seen and heard.

Honey Plants.

Questions answered by Prof. C. E. Bessey, Professor of Botany, at the State Agricultural College, Ames, Iowa.

Herewith find a branch as broken from two kinds of wild weeds upon which my bees are now working, and getting pollen, if not honey. I would like to know the name and honey-producing capacity of them. J. Stuart.

Webster Co. Mo., Sept. 15, 1875.

The plant with yellow flowers, is a species of golden-rod, probably *solidago canadensis*, although the entire absence of leaves from the specimen renders it somewhat doubtful. It is valuable for honey, as are all the golden-rods.

The violet or purple flowered plant belongs to the general family which includes the mints. It is the common dittany, *canila mariana*. It grows from southern New York, southward and westward. Judging from the value possessed by its relatives, this plant is probably a good honey plant.

You will find enclosed some seed of a weed which the bees work on from the 20th of June, and is in bloom yet; the bees work on it every day. It has a square stalk, hollow in the center and grows from 2 to 4 feet high. The seed and flower are close to the stalk in a bur. Here is a small piece of it, not quite in bloom. I think it yields more honey than catnip.

Port Rowen, Ont. E. Brown.

This appears to be motherwort, (*leonurus cardiaca*) an introduced European plant. It is a relative of catnip and the mints in general. I should like pressed specimens of the whole plant.

Yesterday morning I accidentally found the inclosed plant on the roadside; my attention was called to it, from the fact that it was *literally covered with bees*. The same was the case on my return in the evening.

I took a sample of it to the house of a bee-keeper, who also observed it for the first time, this summer; he informs me that there is another variety with a *deep purple* bloom, you observe that this is *yellow bloom*, alike productive of both honey and pollen. WM. S. BARCLAY.

Beaver, Pa., Sept. 25, 1875.

The specimen is a species of golden-rod, and judging from the few small stem leaves which accompanied the flowers, I take it to be the Canadian golden-rod, (*soldago canadensis*). All the golden-rods are valuable honey plants, and might profitably be grown for that purpose. They are so readily killed by plowing, that they are hardly to be considered as dangerous weeds.

The purple flowered plant referred to, is as Mr. Barclay rightly conjectures, a relative of the golden-rod. It is no doubt an astor. All astors are good honey plants.

Enclosed please find six specimens of honey-producing wild flowers: will you please give their names through the AMERICAN BEE JOURNAL, and oblige?

No. 1 is a yellow flower; grows about three feet high; is found on the river bottom, and also in most uncultivated spots in fields, etc.

No. 2 grows in similar places; is from 3 to 4½ feet high.

No. 3 is a thick branching plant, from 4 to 6 feet high, with a great abundance of small, white flowers.

These are very fine honey-producing plants; they begin to bloom the first of August, and continue until winter.

No. 4 looks same as No. 3, except that it has blue flowers and less profuse flowering; but grows exclusively on upland.

Nos. 5 and 6 are similar, differing only in form of flower head; are about 2 feet high, and grow almost anywhere.

C. F. LANE.

Rock Co., Wis., Sept. 15, 1875.

No. 1 is a Bur Marigold, or a species of spanish-needle (*Bidens chrysanthemoides*). I do not think it desirable that the bees should work much on this plant: it would give the honey an acrid taste.

No. 2 is sneeze-weed (*Helenium autumnale*). May produce good honey, but it is doubtful.

Nos. 3 and 4 are a species of aster. These two asters are, no doubt, valuable for honey, as Mr. Lane says. In order to determine the particular species of each, more leaves are necessary.

Nos. 5 and 6 are golden-rods (*Solidago*). The fragments are too small to enable me to identify species. All golden-rods, however, are valuable honey-plants,—so it is not necessary to distinguish between the species.

It makes determination much more easy and certain if a good-sized piece of the plant is sent. The leaves should, in all cases, be present.

Bees here did well in the swarming line. The frost killing our buckwheat cut the honey supply short. I send you two specimens of flowers; would like to know what the names of them are. Bees work lively on No. 1. as it is now blooming nicely. I do not know as they would work on No. 2, it is just coming on. My stock last spring consisted of 57; I now have 118 strong colonies, with hives well filled with honey for winter.

E. J. NEWSOM.

Dunn Co., Wis., Aug 29, 1875.

The specimens are both golden-rods. No. 1 is the large rigid-golden-rod (*Solidago rigida*)—common in Iowa and all the northern States. It is rough, has a stout stem, with quite large heads of flowers, and grows from 2 to 5 feet high.

No. 2 is scarcely determinable on account of not having leaves, but it is probably *Solidago missouriensis*, the Missouri golden-rod. It will probably furnish a good amount of honey.

Always in sending plants for name they should have flower and leaf: this is especially the case with the golden-rods, whose flowers alone are so nearly alike as to render it difficult to identify species.

Particular attention is requested to the advertisement of Geo. H. Byrns, of Pratt's Hollow, New York. He has some bees, honey-boxes and an Extractor for sale cheap, as he is going South. See the advertisement. It should have appeared in the October number, but was overlooked.

Among our callers since the last issue, were: E. Gallop, Osage, Iowa; R. H. Mellen, Amboy, Ill.; and Miss Jennie French. As we were absent from the city on business, we did not see them, but hope they will call again.

We have received the Report of Proceedings of the Kentucky Bee-keepers' Convention. It will appear in our next.

The Other Side of Bee Culture.

Under this heading a writer in the *Western Rural* for Aug. 21st says:

"The outlook for the honey producer is darker to-day than for years past. Put your products where you will, and you meet a competition that drugs the market. Take from the market manufactured honey, and all honey that cost the producer double what it is selling for, and there would still remain a surplus."

In complying with a request of several of our subscribers, we wrote the honey dealers for a statement on the market. The following letters are the result, and will fully explain themselves:

MR. T. G. NEWMAN:—In reply to your favor of the 14th inst. would say that honey market in this city is not overstocked by any means—sales a little slow—but as soon as cool weather sets in I expect to sell tons of it. The sale of honey always is dull here in fruit season.

S. H. STEVENS.

St. Louis, Sept. 15, 1875.

DEAR SIR:—In reply to your inquiries, I can only say that the supply of honey in this city seems equal to the demand; at least we have found no trouble in picking up all we have required. The season however, is not yet fairly opened. When people get back from the country and trade revives, the demand for honey, no doubt, will be considerably increased.

JNO. LONG.

New York, Sept. 20, 1875.

DEAR SIR:—The statement in the *Rural* that the market is overstocked, is in part true; but the writer should have stated with what kind of honey the market was overstocked. He evidently means with poor honey; of this sort we have sadly too much, but of good honey there is very little, and if the "outlook be dark" at all, it is on this account. It stands thus, then: Too much bad honey and too little good.

Let good honey be put in market at reasonable prices and the evil will be remedied at once. The necessity for "manufactured honey," so-called, will be at an end when good honey can be bought as reasonably as good sugar.

A. KERNBERGER.

Chicago, Sept. 23, 1875.

MR. NEWMAN:—I have letters from a large number of apiarists, having from 500 to 10,000 lbs of honey to sell, asking what I would pay for it. I have almost invariably requested them to make their own price, stating that as honey seemed to be plentiful, and trade light, prices would probably be low, and I did not care to be responsible for making the price as I had usually done.

Strictly white comb-honey for repacking, will be in good demand with me; and I shall want a few tons of white extracted sage, bass-wood and clover; but as I have a large stock of dark extracted on hand, from last season, I will probably not want any of that for many months to come. Trade is dull generally, and prices of almost everything lower; a great many things have been over produced, and consequently unsalable at old prices.

I have reduced my retail prices 25 *per cent.* and even that makes trade very little better.

Mr. R. Miller, of Compton, Ill., was here recently, and in the course of conversation, asked me if I did not think that the numerous reports in the papers about sugar, molasses, glucose, glue, flour, soap, palm oil, clay, lard, sawdust, etc., mixed with honey, and sold for the pure article was not recoiling on the producers. I told him, it certainly was; and, if they continued, they would turn everybody's stomach against honey.

I am often asked how I manage to get the wax molded, and honey put into the cells and sealed over as nice as the bees do it. I tell them they give me too much credit.

There are not many honey producers who understand the relation we bear to each other. The true relation is, they are the producers and I am simply their agent to gather it in and hold it for months, and sometimes for years, (however, my money is in it—not theirs,) and distribute it as it is needed all over the world, as my trade extends.

Not many producers or consumers understand that I am placed between two fires. Producers say, because I do not buy all their honey, I must adulterate it, mix it, add to it, or make an imitation of honey—and the consumers say: You sell so much honey, that of course it is not all honey, there cannot be so many car loads of honey raised in the world. I answer to the one that I buy all the honey I can sell, even many times without a profit; and, to the other, that I do not buy one-tenth of the honey that is offered, in many instances having given instructions how to pack and peddle it in their own towns. (Now don't everybody write me at once.)

Some producers say they must have 12½ others 20 cents per lb. for their extracted honey, while I hear that Mr. Crowfoot peddles his honey in Milwaukee at 11c. per lb. I am glad that he has found sale for it. I have bought several lots of extracted honey lately at 8c. per lb.

I should be glad to sell all the extracted honey I could buy at 12c. per lb. in barrels.

There seems to be a great misunderstanding between honey dealers and the producers, and it has been caused largely by producers thinking we made too much money in the business. Let the apiarist step forward who can show a record of as

much hard work as I can in the past ten years, in the interest of bee-keeping. If it was not for him who feeds the honey to the public direct, what would your papers, your hives, your queens and bees all be worth? I have labored 16 to 20 hours a day the greater part of the time since I have been in the business. I have searched out in all our cities everybody that I could sell a pound of honey to, and three-fourths on credit too, in sums of 25c. to $2. trusting almost indiscriminately everybody who would buy, and had standing out at times, after my business was enlarged, in several cities, in these small sums, to people I never saw, $5,000 to $6,000, of which I usually lose from 2 to 10 per cent. I have given away tons of honey for people to try that I never received a cent for.

For many years I have worked for glory, although I always made money; but after learning that my efforts were not appreciated, I only worked for the dollar.

I have been largely engaged in manufacturing maple syrup from the sugar, the past few years, which has outgrown the honey interest, and I may at some time ask apiarists to relieve me entirely of that interest. The maple sugar producers seem to be a rather more pleasant people to get along with generally, although I should pay a tribute of respect to my many friends among apiarists.

C. O. PERRINE.

Chicago, Ill., Oct. 19, 1875.

For the American Bee Journal.

Honey.

That there is no accounting for tastes is an old saying, and to a considerable extent it is true; but our individual tastes and preferences are largely a matter of education.

I live in a region abounding with white clover, and nearly all the surplus honey we get is gathered from the blossoms of that plant. The few linden trees that bloom are not sufficient to materially alter the flavor of the clover-honey. In consequence of this, we have a demand in our markets for only choice qualities of honey. In consequence of the short crop this year, I purchased some bass-wood honey from Michigan, and my customers complained of the taste of bee-bread in their honey. They were ignorant of the flavor of bass-wood and mistook it for bee-bread. Many of them would hear my explanation, and then say, with a knowing shake of the head: "Ah! I know *bee bread* when I taste it."

A friend from the mountainous region east of us remarked to me lately: "Yes, white clover furnishes very pretty honey, but nothing tastes to me like *honey* except that from the poplar bloom."

I was lately at the business house of friend Muth, in Cincinnati, and though short of clerks that day, and besieged on every side with customers, he took time to show me over his large establishment, and to have a little bee-talk. We went to the honey-cellar, and sampled numerous casks of honey, with a view to compare qualities. "This," said Mr. M., drawing the bung from a cask, "came from a friend in Michigan. He wrote when it was shipped that if I ever saw, smelled or tasted better honey, he would not charge a cent for it. He called it white clover. Try it." Upon tasting, it proved to be what would pass in our market for medium second quality. There was in the cellar honey from the North, the South, and the West as far as California. Honey from that State was very thick, almost as clear as water, and of a high spicy flavor, somewhat resembling that from peach and apple blossoms. Honey from Louisiana was rather dark and of a strong flavor. Bass-wood honey, from the Northern States, was very light-colored and already (September) partially candied.

Mr. Muth reports honey-crop very short, no strictly first quality of this year's crop seen, and no comb-honey on the market; though he was expecting some in September.

From the honey-cellar we went to the warehouse, where bee-hives and honey-jars were stored in quantity. A car-load of honey-jars had just come in from the factory, and were piled up near the warehouse. The nicest straw mats for winter covering that I have yet seen were piled up near-by. I have been using quilts, but hereafter shall make only straw mats to cover my bees; and I shall try a few hives with eight combs and a smaller mat on each side next the wood, in place of the comb. I use Langstroth hives.

I was much interested in Mr. Muth's account of two cases of foul-brood that had occurred in his apiary. He confessed that he was very much alarmed when it was discovered, but by prompt treatment, he had conquered it, and that danger was over. The bees were changed to empty combs and the old combs melted and hives burned. After thirty-six hours the bees were again changed to clean combs and fed sugar syrup for wintering. Mr. M. can show as fine Italians as one would wish to see. He cultivates them exclusively, but can relate a little experience with Egyptian bees of his own importation. As fighters, they were a decided success, but they did not conquer friend Muth; for he routed them, "horse, foot and dragoons." That is to say: Kings, queens and guards. This was necessary for the safety of himself and friends.

September, 1875. W. C. P.

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to re-send, on application, free of charge.

BEE KEEPING IN 1875.

UNIVERSAL REPORTS CONTINUED.

DEAR BEE JOURNAL.—According to request in your last issue, we answer:

1. Bees usually commence storing honey in this locality from the 15th of April to the 1st of June, but an unprecedently late frost last spring destroyed all the fruit and other early bloom and no honey was gathered until the first of June, at which time they commenced operations quite vigorously, and continued for about thirty days filling the hives and storing up considerable surplus in caps. Many swarms issued during the month of June, but it commenced raining here about the first of July, and continued for about forty days, during which time no honey whatever was stored, consequently many of the young swarms starved out and died, and those that survived were almost destitute. The wet weather produced a good crop of smart-weed, and bees have, within the last two or three days, commenced gathering honey almost as rapidly as at any time during the season; and the young swarms being quite flush with bees and comb may yet store a sufficiency for winter use. If, however, they should secure only a partial supply, a few pounds of honey or sugar fed them will enable them to winter successfully. If, after the honey season closes, they are found to be short, some of the weaker hives might be destroyed, and the proceeds turned over to the stronger ones; this process, though a little barbarous, we think a better plan than to let all perish.

2. The prospect for honey the balance of the season is very good, early frost excepted.

3. The three best honey-producers, with us, are: white clover, poplar and linn, though we have quite a variety of other weeds and plants that produce more or less honey. Smart-weed taking the lead.

4. Poplar, from 1st to 15th of April, generally,—this year from 1st to 15th of June; white clover, from 15th of April to 1st of June; linn, from 25th of June to 10th of July. J. W. FINNELL.

Madison Co., Ky., Sept. 6, 1875.

DEAR JOURNAL:—I commenced the winter of 1874, with sixty-four swarms, and lost in winter fifteen swarms leaving forty-nine. Five of these were very weak. I did nothing but build up during the season, leaving forty-four, in good healthy condition, though not strong, in bees. I have twenty-two new swarms, making sixty-six in all. I have taken 2,400 lbs of cup honey, and my hives are now well stored with both bees and honey. I do not consider the season a good one; it has been too cold or dry.

We consider the honey harvest for this season now over.

Our fall flowers produce but little honey, and bees seldom gather any after this season of the year more than they use.

Our principal sources for honey are fruit blossoms, white clover and linden. White clover comes into bloom about the middle of May, and continues about six weeks. From bass-wood or linden we get our greatest amount of surplus. It blooms from the middle of July until the first of August, or from fifteen to twenty days. Large amounts of honey are gathered from it. I have known ten pounds of honey to be gathered in one day from it. H. ROOT.

Onondaga Co., N. Y., Sept. 6, 1875.

My success this season in honey and swarms, is as follows:

I commenced the season with forty stocks in the Langstroth hives. I have taken 1600 lbs, up to date, of box honey. I have had but one swarm. The honey season is about over here. We have but few fall flowers, as there is but little buckwheat sown here In the spring we have abundance of fruit blossoms. Then comes white clover and bass-wood. But clover is our main pasturage. Bees have swarmed but little in this section this season, and there is a good deal of complaint of a short honey crop. NELSON TENNY.

Monroe Co., N. Y., Sept. 15, 1875.

DEAR BEE JOURNAL:—In answer to your questions I would report as follows:

1. good for swarms, but too wet for honey; about medium for surplus.

2. Balance of season till Oct. 10th, bees will gather about as much as they consume from golden-rod (*Solidago Ulmifolia*) and aster.

3. Difficult to answer, as seasons vary. *The* best is always *white clover;* then, as a general thing, dandelion, in spring, and buckwheat for late summer.

4. Dandelion commences in May, 1 to 10, and continues about three weeks. White clover the latter part of May (this year June 10), and continues from four to nine weeks, according to weather. Buckwheat, Aug. 1, about four weeks.

H. H. FLICK.

Somerset Co., Pa., Sept. 9, 1875.

DEAR SIR:—I commenced this spring with eighteen hives, very weak; I lost four or five queens by death or desertion. The April spell of winter we had, killed all blossoms in this part of the State, yet my bees never did so well. I raised my own queens, pure Italian. I extracted over 400 lbs of honey; will take off twenty boxes of honey, which will average 30 lbs to the box; and a hive about 600 lbs, in all about 1,000 lbs. My bees increased to 54. I

stopped dividing on the first of July, but the bees had no notion of quitting, so I had twelve natural swarms, afterwards; the last two came off August 22, and they have done well for the time; the boxes are one-half full. The season was very good up to date, but now it is very dry, and bees are doing nothing; prospects ahead not good.

Our three best honey plants are white clover, linn and buckwheat. We have also the poplar, locust, wild cherry, chestnut, and all kinds of fruit. Clover commences to bloom the second week in June, and continues three or four weeks. Linn commences the first week in July, and remains three or four weeks in bloom. Buckwheat commences the second week in August, and is also in bloom three or four weeks. I might also say we have a host of honey-producing weeds in the fall that the bees do quite a business on.

WILLIAM REYNOLDS.

Westmoreland Co., Pa., Sept. 9, 1875.

MR. NEWMAN:—I had twenty swarms last spring; one-fourth of them were very weak. I have taken from them up to-day 363 lbs. of box honey in small glass boxes, and six natural swarms.

The season is over now.

The best three honey plants: dandelion, white clover and linden. They begin to yield honey about the first of June, and continue through July and about a week in August. We get no honey here after the first week in August.

I have kept bees twelve years. I winter my bees in the cellar under the room in which we live. The themometer averages 40; and never freezes. I never lost but three or four swarms in the winter.

I have never made an artificial swarm, or used the Extractor. C. J. WARE.

Orleans Co., Vt., Sept 10, 1875.

I started last spring with five stands of bees; three in good condition; two weakened by dysentery. I increased to eighteen stands, putting two small swarms together. All natural swarms. The first part of the season was too cold and wet for much honey. We have had our best honey season during the past three weeks. I have taken 500 lbs., all in small caps, and have 100 lbs. on the hives. I have not used the extractor.

The prospect is good for the balance of of this month if it keeps warm.

Bass-wood and buckwheat have been our best; now they are working on late buckwheat, boneset and golden-rod.

My bees are black. I introduced two Italian queens to my stock a short time ago. I use the Langstroth hive.

R. A. CALVIN.

Berrien Co., Mich., Sept. 7, 1875.

I began the season with fifty-six stocks; have increased to eighty-four; and have got about 3,000 lbs of box honey; the largest portion was obtained from bass-wood.

The prospect for the balance of the season is rather poor. We had a frost about the 20th of August that killed most of the buckwheat, and the weather is very unfavorable for gathering honey from the flowers that are not killed. The best three plants for honey in this location are white clover, bass-wood and aster.

White clover generally begins to yield honey from the first to the middle of June, and lasts from four to six weeks; bass-wood generally begins to yield honey from the first to the tenth of July, and lasts from ten to fifteen days, sometimes a little longer, which was ths case this year. The aster begins about the last of August or first of September, and lasts from three to four weeks. W. H. TENANT.

Winnebago Co., Wis., Sept. 4, 1875.

Out of forty-three stands of bees put into winter quarters, I succeeded in wintering and "springing" twenty-eight. Ten of these I used for rearing queens, leaving eighteen for gathering honey and increase. The season was very unfavorable until about August 5th. My best stands only gathering enough until that date to keep from starving. My weakest swarms I had to feed. During the summer I increased them to thirty-six swarms, and began to use the extractor, August 10. Honey harvest lasted but thirty days, during which time I extracted 4,200 lbs. of *extra* nice honey, besides leaving them plenty for winter. The original stock of eighteen stands averaged 233½ lbs. each, besides making about 100 square feet of comb.

The best honey plant for this season was smart-weed, then Spanish-needle and a dozen other good plants. Smart-weed commenced blooming about Aug. 1st; Spanish-needle Aug. 25th; both continued in bloom throughout the remainder of the season.

As a general thing Spanish-needle is our main dependence for surplus honey. Some years linn and buckwheat play an important part as honey-producers.

My bees are Italian. I received my imported queen from Chas. Dadant & Son. Her worker progeny are not the fancy, light colored variety which some so much admire, but, O my! don't they bring in the honey though; and that's what we are after. M. E. MCMASTER.

Shelby Co., Mo., Oct. 11, 1875.

I commenced this spring with four stands of bees in fair condition—three Italian and one hybrid.

In the latter part of April, I started a nucleus hive, from which I raised ten very fine queens. On May 7th, I divided all my

stocks, and built up my nucleus to the standard of a strong swarm. They all accepted the situation without a murmur, and went to work to my entire satisfaction. I expected to get a fine yield of surplus honey, but after examining them twice a week, through June and July, I found at no time, more than one day's provision ahead, but always plenty of brood. During the long wet spell, I had to feed them to keep them from starving. About that time my surplus honey bubble "busted," and I agreed with them, that if they would lay up enough to keep them through the winter, I would furnish them with good shelter, and would go in partnership with them on the surplus honey question next spring. They agreed to the proposition, at least they worked on cheerfully, and I left them to their own devices, until the 29th of August. When I came home from camp-meeting, the boys told me I had another swarm of bees. The same queen that successfully led off a swarm on the 12th of August, 1874, concluded to try it again this year; and now after 12 days they have made over six square feet of comb, and that well filled with brood and honey, and I have no fears but they will make all the necessary provisions for winter. When that swarm came out, I concluded I had enough bees, and started through my hives to break up the swarming business, and to my surprise I found them well filled with honey. I got out my extractor, and took away over 150 lbs, leaving perhaps as much more in the hives, and if the weather continues favorable throughout this month and half of next, I shall get at least 300 lbs of frame and box honey; about half that amount is already stored in the second stories of my hives,—the Quinby two story hives, with movable sides, which are very convenient in taking out the frames. They are of my own make, and being a carpenter I can say the hives will pass.

The three best honey-producing plants in this vicinity are white clover, catnip and buckwheat. White clover and catnip last nearly all summer; buckwheat about two weeks. We have numerous other honey-producing plants, but no linden.

J. Balsley.

Wayne Co., Sept. 10, 1875.

Mr. Editors.—I commenced the spring of 1875 with one colony in good condition, and two nuclei. I have increased by artificial swarming to 12 strong colonies. I use a two story "simplicity hive" with "standard L. frame." I have 10 colonies full above and below. I raised all my queens, and the bees have built all their comb.

I have extracted about 130 lbs. From the present prospects I think I will average 40 or 50 lbs this fall. Bees began to gather honey rapidly by April 20, which continued till about July 1st. Italians continued to breed well and increase their stores a little during July and August. Blacks gathered enough to live on, but weakened considerably during those two months.

I kept two colonies of blacks to test the merits of the two breeds, but I found they cost too much, and have just Italianized them. I let my neighbors have several full frames of brood to raise queens from, and I have killed four queens that I did not like after testing them, thus involving loss of time.

I have been living here five years, and there has not been a year during the time, but large yields of honey could have been obtained with proper management.

T. W. Johnson.

Lee Co., Miss., Sept. 9, 1875.

Bees in this section came out of winter quarters in good condition, but most of them were set out too early for such a cold spring as our last. I began to set mine out May 4th and finished on the 8th, all but one in fine condition, and that was destroyed by mice. The whole number placed in my cellar, Nov. 15th, was 82. On June 1st, they were not in as good condition as when set out, while those set out a month earlier dwindled down to the young that were unable to fly, and not many of them.

I got a little over 2,500 lbs of box honey, in five lb boxes.

Bees commence storing about June 15th, and cease about July 25th. I had but 23 new swarms this year. The greatest amount from one swarm was 31 boxes, or 164¾ lbs. Same swarm last year made 172 lbs.

Our honey season is confined to briar, clover and bass-wood. This season the forest worm destroyed nearly all the buds of bass-wood, so that but few of them ever came into bloom; this shortened our crop of honey nearly one-half. My bees are Italians and hybrids. Ira Barber.

St. Lawrence Co., N. Y., Sept. 12, 1875.

I have a cellar that keeps a temperature varying from 35 to 45 degrees. I put thirty-six skips in the cellar on Dec. 1st. In March, all but one were in fine condition, that one I let fall down the steps. I set them on their stands about April 1st, in good order; bought seven skips more; lost eight out of the whole, leaving thirty-four, many of them quite weak.

On the twenty-eighth of June, they began to swarm; have sixty skips in all from swarming and dividing. I put all second swarms back; twelve swarms had no increase. One hive I adjusted to admit of forty surplus frames; it has given me *two hundred pounds* of honey in surplus frames; I do not extract any honey; I have about one ton of honey in surplus frames; the honey season has not been an average one.

My colonies are strong in bees and honey; the honey season is over.

The best honey plants are bass-wood, chestnut, and white and red clover; the raspberry is equal to the best; honey sells for 15 cents for dark, 20 cents for white. The bees have gathered great quantities of pollen this fall. JAMES MARKLE.

Albany Co., N. Y., Sept. 10, 1875.

Three-fourths of my bees of last year were lost in wintering, occasioned by being too weak in bees and supplies, and wintering in an outdoor repository, banked on the sides with earth and sawdust, and covered with boards and straw. During the severe winter, the bees were much of the time surrounded by frost. They would, I think, have been better off in the open air; I commenced this season with the remnant—only six feeble swarms. These have built up strong, but have afforded no increase, and but little extracted honey. I obtained three new swarms of a neighboring bee-keeper, by exchanging old comb,—giving two hives of comb for one of bees. These I have increased artificially, by giving the old comb to six strong swarms, I have extracted from them about 150 lbs of honey.

The three best honey plants in this region are, white clover, bass-wood, and weeds on the Mississippi bottoms. White clover commenced about the middle of June, and continued in bloom three or four weeks. Bass-wood commenced a little before the middle of. July and continued about two weeks, not furnishing as much honey this year as usual. The bottom weeds commenced to bloom about the 20th of July and have continued until the present time furnishing honey in great abundance. One of these weeds grows from four to five feet high, blossoms in large clusters, purple in color, with white pollen. The other resembles Gray's description of golden-rod,—grows about two feet high,—yellow blossoms radiated at the base—center large and cone-like. There are near here hundreds if not thousands of acres of these blossoms, furnishing excellent fall pasturage for for bees.

One veteran bee-keeper in this vicinity has seventy-five swarms. Has extracted this season over a ton of honey. He lost during last winter less than five per cent. Winters in a warm, dry cellar, with caps filled with straw and no upward ventilation. His bees came out with clean comb very strong.

Another intelligent bee-keeper within three miles, has about a hundred swarms. He discards the extractor. Is laying aside frames, and going back fifty years to a plain box hive, with an arrangement for boxes in the top,—planning only for box honey, and he succeeds finely. SIGMA.

Dakota Co., Minn., Sept. 21, 1875.

I commenced with 19 colonies. Had twelve natural increase, and nine artificial.

I took 400 lbs extracted honey. Principal source of honey: fruit blossoms, white clover and buckwheat

C. C. MILLER.

McHenry Co., Ills., Sept. 24, 1875.

I began the season with twenty-two stocks of Italian bees, having lost eighteen during the winter and spring. The most of my stocks were very weak. The fruit blossoms were nearly all killed, and the bees got a very late start. They did well, however, while the black gum and poplar were in blossom, and stored some honey. The wet weather set in the first week in June, and from that time until the middle of August, they did not gather more than enough to supply their own needs. In fact in some of the hives not enough I have increased by artificial swarming to thirty-five full colonies, and two nuclei, and have taken thirty-three lbs of extracted honey. For the last two weeks my bees have been gathering honey very fast, principally from buckwheat and several varieties of *polygonum*, the species to which the common smart-weed belongs. The prospect now is that they will store enough to winter on and some to spare.

I am at a lost to determine what answer to make to the question, "which are the best three honey plants in this section of country? White clover, no doubt, stands first in importance, and yet some seasons it yields very little honey. This year it was almost worthless. I am inclined to place black-gum and poplar (tulip tree) as the next two in importance. We have so little bass-wood, or linn, in this neighborhood that it is not worth mentioning. The black-gum blooms in May. I am not able to give the precise time, and remains in bloom about ten days, perhaps a little more. The poplar comes in about the time the black-gum is done, and continues about two weeks. White clover begins to bloom in May and continues through June, and sometimes well into July, according to the season. M. MAHIN.

Henry Co., Ind., Aug. 4, 1875.

DEAR EDITOR:—This is my first year in the business. I reside in the central part of the city. Started last spring with two good stocks of common bees; increased now to five. The spring was very wet, cold and backward, and but very little honey was gathered till about the 1st of July, when the white clover came, the weather being favorable, it lasted almost six weeks, during which time, when it did not rain, the flow of honey was very abundant and had my bees been in good shape I might have had at least two hundred pounds of box honey. One stock is strong and has yielded fifty lbs of nice box honey. Three others are now quite

strong, but have given me only about twenty lbs of honey from all. The fifth wants nursing yet. My text-book is Langstroth as well as my hive, and I am a great admirer of both.

There is still a good deal of honey apparently, and *if* it does not rain too much, and *if* frost does not come too early, our bees will get their share of it.

I can only speak of white clover with certainty as a honey-producing plant, though there must be others. There is now a good deal of golden-rod in bloom, but clover is our main reliance.

On the whole I am gratified with my success, and look forward with pleasure to a resumption of the work, that is *if* my bees winter well. MRS. C. E. CRAIN.

Milwaukee, Wis., Sept. 6, 1875.

1st. I commenced this spring with 40 stands of bees, rather weak, being badly damaged last fall by taking them to the mountains, some ten to twelve miles east from Orange. I commenced extracting about the 15th of May, and to Sept. 15th, I have taken six thousand pounds. I have increased them to over eighty stands. I will still have to extract and divide them, as they are strong with bees and honey. I have sold no honey for less than ten cts. in gold, and don't intend to. I love the mountains and bee-culture.

2d. Not much more extracting, although during the balance of the season they gather honey and pollen whenever the sun shines.

3d. The three best honey plants in my location is the black button sage, the white sage, and the sumac.

4th. They begin to yield honey about the middle of May, and continue about three months. ROBERT HALL.

Los Angeles Co., Cal., Sept. 8, 1875.

I wintered 31 stocks of bees last winter, mostly in good condition; about half Italians. The spring was cold and they did but little till late in May. I extracted about 700 pounds of red raspberry honey in June; got a small quantity of bass-wood honey. They have gathered some for about one week to this date, Sept. 4. I have taken about 1900 lbs. and have 83 strong stocks; the prospect for the balance of the season is good. My bees raised more brood this year than I ever knew before; they are all Italians and hybrids. Our best honey-plants, aside from linn, is golden-rod, wild aster, and boneset. They all begin to yield honey about the 20th of August and last till frosts destroy them, which is generally about the last of September. Last winter was very hard on bees in this vicinity, nearly all died except mine. I lost ten out of 59; then sold all but 31.

IRA J. ANDREWS.

Gratiot Co., Mich., Sept. 4, 1875.

We had 61 swarms, all Italians, to commence with in the spring. We only extracted 1200 lbs. It was a very poor season for honey here. It rained almost every day through the honey-season. We now have ninety-one swarms, and sold two. The weather has been very good for bees during the past two weeks. We think they have a plenty to winter on, if it continues, and we may have some to extract. They are working on buckwheat and thoroughwort at present.

As to the best honey-plants, Alsike clover and Rocky Mountain bee-plant are the best two, and catnip the next. I think the wet season favorable for white clover, as it is so plenty, and we may expect a good honey-season next year. Your JOURNAL, I could not do without; if I only had two swarms, I would not be without it. We take three, and read them all. MRS. A. A. RICE.

Medina Co., O., Sept. 10, 1875.

In answer to your questions in September number:

1st. Good.

2d. Good.

3d. and 4th. That I am a beginner in bee-keeping, and cannot answer intelligently; white clover is our main dependence. We have a large quantity of red raspberry, some bass-wood, buckwheat, boneset, golden-rod, and fruit blossoms. Every other year this is considered a good section of country for bees.

CHAS. OLIVER.

Crawford Co., Pa., Sept. 6, 1875.

We have not had much of a honey-season, here in Maine. It has been cold and wet. We generally have our best honey-season in August and September, but this year we have no honey to mention. My bees did little or nothing on golden-rod. It has been so cold that we had quite a frost on the 11th of September, and since that, bees have flown but little. I had three stocks to start with in the spring. Have had five natural swarms and made one artificial, and given them an Italian queen; introduced by Mrs. Tupper's method, with perfect success, and now have a fine stock of Italians. I have at this date nine good stocks; am hopeful to be able to winter and spring them in good shape, and take some honey next season. I have only taken about 25 lbs. this season. I hope to do a good deal better next year. S. H. HUTCHINSON.

Mechanic Falls, Me., Oct. 11, 1875.

I have taken an average of 75 lbs. of extracted honey from my stocks. If I had run my bees for honey exclusively, I could have taken 125 lbs. per colony. My increase is at the rate of three for each one I had in the spring. I have as many as six from one (partly natural and

partly artificial). The honey season is over with us.

2. Bees have not gathered any honey since the 20th, when we had considerable frost. There is a plenty of heart's-ease in bloom yet, but it is too cold for the secretion of honey, and the little workers, with bountiful supplies, seem to be enjoying a season of rest.

3. Bass-wood, sumach, and heart's-ease, or smart-weed.

4. Bass-wood and sumach commence to yield honey about the 20th of June and usually continue about two weeks; smart-weed begins about the 15th of August and continues until frost.

L. G. PURVIS.

Fremont Co., Iowa, Sept. 25, 1875.

I commenced the spring with seven swarms, two of them light, from which I got no increase, and five wintered in cellar, fair, average swarms, from which I have an increase of 11 good swarms, making 18 in all. I shall get about 300 lbs. of box honey.

My bees have not stored any honey in boxes since about August 10th, on account of cold and wet weather.

White clover, bass-wood and buck-wheat. White clover and bass-wood begin to bloom about June 10th; buck-wheat about the first of August, and remains in bloom until frost, which came this year on the 22d of August.

O. C. BLANCHARD.

Sauk Co., Wis., Sept. 13, 1875.

I took sixteen hives out of cellar last spring in good condition. The season being cold, they made no honey until the latter part of August; then they increased in numbers and were strong when honey harvest came. Have increased to twenty-three. Extracted 350 lbs., and I think I can take out 350 lbs of nice comb honey, made in frames, and have plenty to winter on. What they have done was done in about eighteen days, in the latter part of August and first of September, from smart-weed and spanish-needle. They got no good of white clover on account of constant rains.

The above named plants, I think, are the best honey-producing plants in this locality.

Heretofore, I have only been keeping bees for the novelty of it, and honey for table use, but now I find, where intelligently and judiciously managed, it would be a profitable business, consequently, I think of increasing the stock. My hives are 18½x18½, 12 in depth. I use no boxes or honey-boards. I winter in a dry, well-ventilated cellar, under my dwelling-house. I have wintered from eight to eighteen stocks from nucleuses up, for four years, and lost but one, and that was from some oversight, as it had not enough honey. I buy my queens from A. Salisbury, of Camargo, and have never been disappointed in getting what I pay for. I buy pure Italians from imported mothers.

By the way, Mr. Salisbury, years ago, learned the secret of wintering bees. When a man can for years put into winter quarters from 150 to 200 stocks of all sizes from nucleuses up to the largest standard hives, and take out the same number in good condition, all can see the great contrast between that and the usual wail that comes from Maine to Kansas, over the loss of their pets.

R. E CARMACH.

Douglas Co., Ill., Sept. 22, 1875.

Answers to questions in the AMERICAN BEE JOURNAL of Sept.:

I. Have taken with the extractor an average of twenty pounds per hive, mostly in July. Had to feed nearly all through August and into September to keep up brood rearing. Sometimes during August they seemed to gather almost nothing, again they did better, but not enough to supply the brood. We fed on sugar syrup in the middle of the day, in the open yard, about 1½ gallons per day to twenty colonies. The bees seemed to expect it regularly, took it with the greediness of pigs, and then quieted down in a very few minutes; no fighting, no robbing. The swarming season was very late this year. Sometimes they begin in April, but this year they did not begin till near the end of June. We made an average of one from two.

II. The prospect for the balance of the season seems to be good. The autumn gathering is now (Sept. 16) fairly commenced. The hives are filling up gradually. The bees are working busily on buckwheat, golden-rod, iron-weed, smart-weed, rag-weed, boneset, etc., are coming into bloom.

III. The best three honey-plants, are 1st., poplar, or tulip; blooms in May, from the 1st to the 15th or 20th—owing to the season. No bloom this year: killed by late frosts. 2d. White clover not over abundant—blooms from June 1st to 20th, and sometimes again sparingly in Sept. 3d. Sour-wood; blooms about July 1st to 20th. This latter gave us our surplus the current year, being abundant, and yields a most delicious variety of pure, transparent honey.

A. E. KITCHEN.

Guilford Co., N. C., Sept. 16, 1875.

1st. Extracted honey, 1247 lbs., but very little box honey. I have fifty-three stocks, besides nuclei.

2d. Good till frost. Forty-five or fifty gallons per week. The season will probably last two or three weeks.

3d. White clover, linn and spanish-needle; linn begins to bloom about July 7th, and lasts about ten days; spanish-

needle begins the last part of August and lasts till frost; smart-weed has given some surplus this fall. ANDERSON YORK.

Davis Co., Iowa, Sept. 7, 1875.

I put eleven colonies of blacks and hybrids into winter quarters, by making a box for each hive, of boards, coming within six inches of touching the hive all round, except in front, which I left open to the south-east. The spaces between the sides and hive I filled tightly with dry leaves, about Nov. 10; and covered it over to keep dry, giving no upward ventilation. I use the two-story Langstroth hive. I did not lose a single colony, and but few bees. In the spring I fed but little, as they had plenty of honey. For pollen, I gave them rye and wheat flour. They gathered honey quite fast from the peach and maple bloom (April 1st,) and nearly filled their surplus boxes. On April 17th a frost killed the bloom, and ended their gathering honey. My first swarm came on April 24th, while it was yet cold. I had to feed all until white clover came. Then they began to swarm again. June 1st, I extracted 75 lbs of honey, but the bees never filled the frames again. Usually there is but little to be gathered in July and August. For 15 days from Aug. 7th, I fed each hive ¼ lb to stimulate them for the fall crop, if there should be any. Aug. 22d I had two swarms, and would have had more but I prevented it by cutting out the queen cells.

We have a plenty of aster, golden-rod, and fall flowers, but it is too dry. If the bees do not get enough to winter on, I shall feed them sugar syrup. This I prepare by mixing equal parts of "Coffee A," sugar and water. When it boils add a teaspoonful of salt to every 8 lbs of syrup, and skim it.

I expect to prepare my bees for winter as for several years past, on their summer stands.

The three best honey-plants are: white clover, (May 10th to June 10th); poplar, (May 1st to June 1st); aster, (Sept. 12th to Oct. 10th). HENRY W. ROOP.

Nashville, Tenn., Sept. 5, 1875.

EDITOR JOURNAL:—According to your request, I send you an account of what my apiary has done this season up to date.

1st. I have averaged eighty-five pounds extracted and comb honey per hive, for the old stocks I had in the spring. Increase in swarms one and one-third swarms to the old ones.

2d. For the balance of the season poor prospect. It has been raining and cold for the last weeks.

3d. The three best honey-plants are: White clover, bass-wood, golden-rod. White clover from the 10th of June to the 15th of July; bass-wood from the 8th of July to the 20th; golden-rod from the 15th of August to last of September. That is about the time they generally bloom.

A. S. WILLIAMS.

Laporte Co., Ind., Sept. 21, 1875.

MR. NEWMAN:—It was rather wet this season for honey, but the bees are all heavy and prepared for winter. I took about 1000 lbs of box honey. Our best honey-plants and trees are: poplar, bass, buckwheat, and golden-rod. This is the place for bee-keepers, as bees need no winter protection. I do not half attend to mine, as I should, and they pay me 33 per cent. My fruit farm keeps me busy. To any one wishing to locate in a mild climate, and wanting any information in reference to the country, I will cheerfully give it. No grasshoppers here to eat up the crops. A. F. HORINE.

Madison Co., Tenn., Oct. 12, 1875.

I had twelve colonies in the spring, which were in the eight-frame American hive; now I have 21 colonies, and the new colonies are all much larger than the old; the new hives have 10 frames, 14½x12½. One of these colonies will almost make two of the old ones—making a pretty fair increase. I have about 50 lbs. of box-honey. We had too much rain the fore-part of the season. This decreased my box-honey by about 100 lbs. White clover has been about our best honey-plant this season. It lasted from the first of June till the 15th of August. Buckwheat and corn fields were our next. They lasted from about the 1st of August to the 10th of September. Red clover comes next; it lasts from about the 15th of June to the 1st of October. We have any amount of golden-rod here, but the bees do not like it.

In my article in No. 9 (Sept.), in the 6th line from the top, for 32, read *twelve*.

D. H. OGDEN.

Wayne Co., O., Sept. 8, 1875.

After "springing time" was over, we were left with 32 colonies, and from them we report as follows: 56 strong colonies at present.

Aug. 5 extracted		9¾	gallons.
Aug. 12 and 13 extracted		60	"
Aug. 19 and 20	"	52	"
Aug. 26 and 27	"	75½	"
Sept. 3 and 4	"	76	"
Sept. 10 and 11	"	94¼	"
Sept. 17 to 21	"	106	"
		473½	gallons.

We think we have left them stores enough to winter on safely. The best bee plants here are sumac, smart-weed, spanish-needle and buckwheat. As yet the white clover is not here enough to count on. MRS. S. DICK.

Benton Co., Mo., Oct. 13, 1875.

I had 19 swarms in the spring,—one queenless and several quite weak; have increased to 60, and all strong enough to cover 8 and 12 frames; have obtained about 400 lbs. box honey and 300 lbs. of extracted.

2d. Frosts and cold weather will prevent getting any more honey this season

3d. The best three plants are: white clover, linden and buckwheat.

4th. White clover commences about June 1st. to 15th, and usually continues until July 15th; second crop in Aug. and Sept., not profuse. Linden, July 15th, continues about two weeks. Buckwheat August 1st, profuse until Sept. 1st.

We have millions of golden-rod, blue-thistle, motherwort, etc., which help to fill up intervals. Our honey this season is from white clover and buckwheat. Nothing from linden J. H. MARTIN.

Washington Co., N. Y., Sept 20, 1875.

We set out 23 colonies from cellar in not very good condition, owing to a hard winter and scarcity of honey last fall. I fed them on rye meal, but they seemed too feeble and cold to get out much. As soon as the willow began to blossom, they began to increase and gather honey and pollen, and I never saw bees do better. They stored honey from soft maple, poplar and fruit-flowers, until bass-wood came and we had plenty of that, and afterwards came buckwheat, catnip, balm, and other honey-producers, but an early frost put an end to their joy in a great measure.

Owing to poor health, I was not able to secure as much honey as I might otherwise have done, but I am sure they have enough for wintering, and I fear too much for their own good. We took about 1000 lbs. extracted and comb honey.

We have a good location for an apiary, being on the banks of the Turkey river. Our bees have access to timber and prairie. MRS. S. A. HILL.

Fayette Co., Iowa, Oct. 1, 1875.

MR EDITOR:—In answer to your questions, please let me say, that I had 60 colonies early in the spring, which increased to 85 by June 20. By Aug. 15th they began to gather honey very fast, and by Sept. 15th they had filled their hives and went to work in the caps, which contain 10 frames, 10x14 each.

Prospect is good, as caps are now nearly filled, and they will continue to work till frost.

Our best honey-plants are bass-wood and two kinds of weeds that are plentiful in these bottoms, but I do not know their names. The honey from them is very superior in quality. I have been in Texas and other southern states, and as far north as Michigan, but I would not exchange locations for any other—even California. Italians are the most gentle, and best breeders, but for profit give me hybrids, and I have tried them in Italy, Brazil, Spain and Portugal, as well as in this country. JOSEPH M. TELLER.

Cass Co., Sept. 5, 1875.

Below please find my success up to date.

1st. My bees did badly through June and July, owing to the grasshoppers eating up all vegetation. Linn bloom lasted only 7 days. My 50 colonies would not have averaged over a quart of bees, when the Linn trees came in bloom. I have had only 5 swarms.

2d. The prospect for the balance of the season is very flattering. I have extracted one thousand pounds to date, and will get over 200 lbs of box honey, and my hives are full of bees and honey now.

3d. The best honey plant here this season was smart-weed. It commenced blooming about 1st of Aug., and will last until frost. Golden-rod commenced blooming about the 1st of Sept., and is still in bloom. These are the only honey-producing plants except white clover, and there was none this season; the grasshoppers ate it all up.

I have now twelve hundred pounds of honey that I have been offered 18 cts. per pound. J. L. SMITH.

Ray Co., Mo., Sept. 10, 1875.

I shall reply to your interrogatories in Sept. No., in the order in which you place them:—

1st. Bees used nearly all their honey this summer to promote breeding; have increased my stock 50 per cent. by artificial swarming; have taken but little comb or extracted honey.

2d. No prospect beyond late buckwheat and a few wild flowers.

3d. Our honey-producing plants are: 1st., fruit blossoms and locust; 2d., white clover and linden, (the native linden is much better than the English); 3d., buckwheat. It has been the misfortune of our farmers to plant the *gray buckwheat*; this is the first season it has given us any honey for ten years past.

4th. White clover came into bloom June 23d. Linden bloomed July 4th; each lasted about 6 weeks.

WM. S. BARCLAY.

Beaver Co., Pa., Sept. 6, 1875.

My twenty-five stocks wintered through all right, in a cave which I made for the purpose. They did well until after fruit blossoms, then a honey-dearth occurred, caused in the first place by dry, and then very wet weather, which lasted until the latter part of July, when they began to do better, and have continued to do well up to this date. Have taken about 450 lbs. of

extracted honey, and increased to thirty-nine stocks nearly all full.

The prospect now is that the bees will continue to gather honey until sometime after frost. I may yet make a few swarms and extract a considerable amount of honey.

The best three honey-plants in this section are: white clover, bass-wood and buckwheat. White clover blossoms from May till after frost, but does not secrete much honey after the first of July. Bass-wood blossoms about the first of July and lasts about two weeks. Buckwheat blossoms from the last of July, generally, until the first frost. T. W. Livingston.

Washington Co., Iowa, Sept. 7, 1875.

Mr. Editor:—This is my report:—1st. Increase four to one; commenced in the spring with sixteen, increased to sixty-five stocks. Honey, nearly 500 lbs of box honey. This was done previous to August 20th, at which time we had a frost which killed the corn and buckwheat, and second crop of white clover, just as they began to yield honey. Three swarmed two or three days before the frost, which will have to be fed, as there has been no honey since. Some pollen has been gathered.

2d. No prospect for any more honey this year.

3d. Wild raspberry blossoms, white clover and bass-wood are all in abundance this year. Bass-wood gave honey only about three days, instead of fifteen or twenty day.

4th. Being a stranger here I cannot tell the commencement of a yield of honey, nor what plants produce it.

I am greatly interested in bees, and the success I have had with them during the past two years have given me over four hundred per cent. on the capital invested. Last year I sold twenty-seven stocks, and this year ten stocks. I have been very successful in my manner of wintering my bees. The upper ventilation has been run to the extreme. It may answer for very strong stocks, but for weak ones or medium it is death. I give but little, and that only in proportion to the strength of stock, and my cellar is ventilated by a stove pipe inserted in my sitting-room. The stove-pipe is four feet above the floor, with a damper to close or open at will, and the pipe extends down through the floor to within fifteen inches of the bottom of cellar. This makes it as pure and sweet as an upper room. My thermometer in the cellar is kept from 35 to 45 degrees above zero, and those who can winter well, can make bees pay. In this section I predict a great loss of bees, for two reasons: first, want of stores, and second, lack of young bees, raised this fall, to live late enough in the spring to supply the loss. David Brokaw.

Clark Co., Wis., Oct. 2, 1875.

Dear Editor.—Our bees have not done as well as usual. On account of the cold weather, bass-wood yielded but little honey, and white clover did but a trifle better.

Some of my neighbors claimed to have Italian bees, but as I had seen many at exhibitions, I did not think them pure, so I sent to Barnum & Peyton for six full colonies of Italians, and these proved to be the only ones here of pure stock. These colonies were put up so well that they would have carried to China without damage. In the whole six colonies I failed to find an impure bee, and, of course, I was well pleased with them. My main trouble thus far has been to winter well. A sure and safe plan of wintering would be a boon, indeed. Geo. T. Burgess.

Lucknow, Ont., Oct. 5, 1875.

I will give my report on bees. I started last spring with six swarms. I increased to nineteen; lost three by running away, and three I doubled with others. I took 300 lbs. of box-honey. Our main dependence is white clover, bass-wood and buckwheat or golden-rod.

C. S. Wellman.

Bremer Co., Iowa, Sept. 17, 1875.

In answer to questions, we report as follows: 1. No surplus honey. Increased from 78 to 101 swarms.

2. There is no prospect for surplus honey; but enough to keep bees busy during the winter for their own consumption.

3. White sage, buckbush or berberry, sumach.

4. White sage blooms in April. The berberry blooms several times during the summer. It is now in blossom in our canon for the *fourth* time since April. Sumach generally begins with August, and lasts a month or more. Our ranche is within the frost-stricken belt (frost of April 5th), which accounts for the poor return.

Brunk & Bruck.

Los Angeles, Cal., Sept. 17, 1875.

Last fall and winter proved very disastrous to many of the apiaries in this State. More than two-thirds of my bees died. Others have had about the same amount of "bad luck"; the fates in the form of the drouth and grasshoppers, have been against us. But since the middle of June bees have been doing well; swarms have been frequent this fall, and a good average of honey per colony has been procured. The pasturage this fall has been sufficient for almost an unlimited number of colonies. Crops are good, and everything indicates a rapid recovery of the country from its past reverses.

If, from the calamities of the past, we

but learn how to attain success under difficulties, we may yet hope to make the honey-bee a success in this State.

M. A. O'NEIL.

Douglas Co., Kansas, Sep. 24, 1875.

DEAR JOURNAL:—In response to your enquiries, let me say:

1st. I commenced in the spring with five colonies, (Italians); have taken about 150 lbs. of comb-honey, and increased to 28 hives, one of which is working in top boxes, and several others now ready for surplus boxes. I have had but three natural swarms this year, all the rest being artificial.

2d. Prospect good for the balance of the season, which will last to Dec. 1st., and possibly until Christmas.

3d. I cannot say with any degree of certainty what are our best honey-producing plants. The Spanish persimmon, mezquite and anagua seem to be the favorites of the little workers, but they do not last very long; varying with the season from one to two weeks. The mezquite and anagua bloom twice during the year, spring and fall.

4th. We have countless varieties of wild flowers from which the bees gathered honey from early in February until the 15th or 20th of Dec. You can see from my success that this is a bee-country. I think that if I had used the extractor, I could have still further increased my stocks, and saved several times as much honey, as the honey has been in the way of the queen all the season.

J. W. DUNN.

Corpus Christi, Texas, Sept. 13, 1875.

1st. Very good. Hives that did not swarm gave me one hundred pounds box-honey. My stock hives all gave two swarms each, and some of them gave three.

2d. No more surplus honey this season; my bees being kept in the city, I have not the benefit of buckwheat.

3d. Dandelion, fruit and white clover.

4th. Dandelion blooms April 11th; fruit blooms about the last of April; white clover blooms May 10th, and continues until about August 1st. THOS. BRASEL.

Portland, Oregon, Sept. 18, 1875.

DEAR SIR:—In compliance with your request under special:

1st. We have had but few swarms, and from 200 hives we have taken only 32 lbs. honey.

2d. We only expect to divide and make swarms.

3d. Mountain clover white sage, and buckwheat are the three best honey-plants. Mountain clover begins to bloom the last of March, and continues until the middle of May. White sage begins May 1st, and continues till July. Buckwheat begins to bloom about June 1st, and continues till the last of October. GEO. B. WALLACE.

San Bernandino, Cal., Sept. 18, 1875.

I commenced the season with 16 stands of bees, in good condition. I think I never saw hives so full of brood as they were in the early part of the season, and the prospect was flattering; but a cold spell in April killed the fruit bloom; then followed a dearth, which completely used up the white clover.

We had honey-dew for some time in June, which seemed to deceive the bees in regard to the season, as I had quite a number of swarms, some of which were returned to the parent stocks.

The latter part of the season has been poor. Buckwheat and fall flowers yielding scarcely anything. Result, 24 stocks of bees, without half enough to winter on. I have united some stocks, and am feeding for winter, and hoping for better times.

The principal honey-plant in this section is white clover. Linn is not plenty, and buckwheat seems to yield but little honey. C. P. MCCLURE.

Allegheny Co., Pa., Sept. 27, 1875.

DEAR EDITOR:—In response to queries in September number:—

1st. A year ago I bought 100 stands of bees in Langstroth hives, as used here. Increased mainly by artificial swarming. Lost some of the old stock and some of the new swarms. Have now about 140 stands. But little surplus honey. What I have, was taken from brood-combs. Heavy frosts in April, and want of spring-rains, cause of failure of honey this year. I live between 20 and 30 miles from the coast. Near the coast the frost did no damage, (see "Amateur's" reports in Aug. and Sept. No.)

2d. Will get no surplus after this. Some stocks will have to be fed. Bees may yet store some honey from flea-weed, and a few other fall flowers. Breeding well, and carrying in plenty of pollen.

3d. White sage, sumac, and yellow or wild alfalfa.

4th. Sage generally commences some time in May, and lasts about six weeks. Sumac comes in, right after sage, and lasts till the latter part of July. Wild alfalfa blooms at same time as both the former.

This year the barberry or buckbush has given more honey, and bloomed longer than any other plant in my neighborhood.

WM. MUTH-RASMUSSEN.

Los Angeles Co., Cal., Sept. 17, 1875.

DEAR EDITOR:—Last year I went into winter quarters with 30 colonies; six were short of provisions, and died. During the spring we lost three colonies; the bees left their hives and united with others. That left twenty-one swarms, which I had

to feed from the time we took them out of the cellar until fruit trees bloomed, which was six weeks. Fed them about one dollar's worth of sugar per day. I gave them what comb they could use and cover, and added empty comb as they increased in strength. I helped the weaker colonies with brood from the stronger, and when white clover came all were strong.

They went to swarming instead of storing honey. We clipped the queen's wings to prevent this. They then settled down and went to work, and to this time we have taken about 1000 lbs. of extracted, and 300 lbs box-honey, and increased our colonies to forty.

Shall not extract much more, for I do not intend to be short of supplies this year.

The bass-wood yielded but little honey, but white clover was so abundant that we hardly missed the bass-wood. Our principal resources are white clover, linn and buckwheat; we have also, mustard, catnip, smart-weed, golden-rod, iron-weed, and a multitude of other honey-producing plants, which greatly help in their seasons.

The demand for extracted honey is very small, almost no call for it at all. There has been so much said and written on the subject that people are afraid of it. I do not see what will restore it to the confidence of the people, but it must be done. All engaged in bee-culture in this vicinity, have gained courage for all have been successful. MRS. S. G. VAN ANDA.

Delaware Co., Iowa, Sept. 7, 1875.

DEAR JOURNAL:—Our best honey-plants for spring are: maple, elm and tame grass. For fall, heart's-ease has superceded buckwheat. Bees are doing well, and the prospect is good.

WM. FAULKNER.

Switzerland Co., Sept. 24, 1875.

I notice in the JOURNAL, come complaints from almost all parts of the country, that the bees are doing nothing. I am happy to report that this is not the case in regard to this part of central Illinois, (Champaign Co). In the early part of the season they did not do very well on account of the excessive rains, and but little honey was stored, beyond the immediate requirements of the hive, till linn came into bloom; during which time we had less rain, and they filled their hives pretty full, but stored very little in boxes. About the 10th of August, when buckwheat commenced blooming, they began their summer's work in earnest, and I have never seen bees do better than they have done since, and are still doing.

Just as the regular swarming season came on and the bees had made all preparations for it, the rains interfered and stopped them.

My hives have mostly been full of bees all summer, and about the middle of Aug. they commenced swarming, and I have had more or less swarms almost every day since, sometimes four in a day,—had one to-day.

The first two I gave separate hives, but I began to fear they were going to overdo the business, and I put all the rest back, consequently they are strong, and are storing honey finely. The two that I gave hives the middle of August, have their hives full, and are at work in boxes. I have had about twenty-five swarms since that time, and how long it will continue I cannot tell.

2d. The prospect for a good run of fall honey was never better, if frost holds off.

3d. The three best honey-producing plants we have, are usually white clover, linn, (near timber), and buckwheat; but this year white clover has not done as well as usual; for this season, the list would be, linn, buckwheat and heart's-ease. The latter is very abundant. The corn fields and grain fields are filled with it, and it is an excellent honey-plant.

4th. Linn continues in bloom two or three weeks; heart's-ease and buckwheat, with other fall flowers, will continue till frost. J. G. THOMPSON.

Champaign Co., Ills., Sept. 8, 1875.

ED. JOURNAL,—Our honey season commenced about July 20th, on sumach, and has been favorable ever since. Previously our bees were at the point of starvation. We never lose colonies from any cause. After the spring sales, we commenced the season with twenty-five colonies, and one of them was queenless. We have taken 128 lbs. extracted per colony of old stock, and $22.50 worth of nice box-honey, and will get enough to make from 150 to 175 lbs. of extracted, per colony, and increase to forty-four colonies. I shall double up some of them this fall. This has been the best season I have ever known in this country.

The three best honey-producers are: honey-dew, from 20th of May to 20th of June; sumach, 20th of July, and lasts three weeks; heart's-ease, and a yellow flower, looks like a bastard spanish-needle. Both of these grow in stubble fields quite profusely, in wet seasons, and produce more or less honey during all the fall.

E. LISTON.

Cedar Co., Mo., Sept. 13, 1875.

DEAR SIR:—I report the following, in reference to the "Special to your readers," in your September journal:

1. I commenced July, 1874, with one Italian and five black colonies. Closed the year with eight Italian and two black colonies. The spring of 1875 was very late, and consequently short. Summer came in soon after spring commenced.

In consequence of it the swarming season was short, and I could only succeed to give the two black colonies Italian queens; only divided one hive, as the other colonies seemed to be rather weak; had natural swarms, and have now sixteen *medium* colonies; six pure, the balance hybrids, but all large, strong bees. The honey season was very good, but short, on account of dry weather. I had about 400 lbs. of extracted honey.

2. If we do not get *too much* rain now, I think this season will be better than the last.

3. Corn, cotton blossoms, wild-flag, visage-tree, and a number of prairie and bottom flowers.

4. We have blossoms from the beginning of March to the middle of December, and even in winter bees find honey in the bottoms. The worst season for us is *summer*, from June to the end of August. The winter is nothing. If it is even cold during nine days, there will be a warm day, when they can fly out, clean themselves, and if not too far from the bottom, will gather a little.

CHARLES C. SAGE.

Victoria, Texas, Sept. 17, 1875.

DEAR JOURNAL:—In response to your request I will say that my success to this date has been very good, as to honey, since the 15th of July. I got only a little surplus honey before that. As a specimen of how my bees have been doing in the latter part of the season, I will say that on the 12th of August, I drove the queen and a fair sized swarm of bees out of a gum-hive that I bought last spring, giving the new colony only one frame of comb, and the 1st of September I cut from the new colony 25½ lbs of bright honey, and sold it at 25c. per lb. to a neighbor, and left the bees about three frames of comb. My colonies averaged one swarm each. I have since transferred the bees and comb from the gum-hive, getting, at the time of transferring, 24½ lbs. of dark honey, which I sold at 20c. per lb., and the transferred bees are doing well with five frames of transferred and some new comb.

The prospect for the balance of the season is fair. If we have a good rain soon, it will be very good.

The best three honey-plants in this locality are buckwheat, smart-weed, and sumach. My bees have been provided with a succession of blossoms since the first of July, and will be until frost comes. Of smart-weed, I will say that it began to yield honey in the fore part of August, but has now almost ceased to blossom, on account of the dry weather, but with a good rain it may be very plenty until frost, which may come here about the first of October. The sumach furnished a scanty supply in the early part of June, and is doing a little good now; it was very abundant in the latter part of July. Clover is almost unknown here, as the people have but very little red or white, and there is but one man in the county who has any alsike. It is beginning to attract attention, however. I expect to sow some white and alsike next winter, and get two of my neighbors to do likewise.

J. STUART.

Webster Co., Mo., Sept. 6, 1875.

MR. EDITOR:—I commenced this spring with five swarms, which were very weak; increased by artificial and natural swarming to sixteen; have extracted 10½ gallons; have taken off 325 lbs. box-honey. There are over 300 lbs. of unfinished boxes on the hives yet.

The prospect here is good yet, until frost. The best plant here is the blue nervine, commencing to bloom about the first of July, and continuing until frost. 2d, fire-weed, commencing about the first of August, and lasting about two weeks. 3d, boneset, beginning the latter part of August, and lasting until frost.

ROBERT FORSYTH.

Lenawee Co., Sept. 9, 1875.

Bees have done well here, this season, in gathering honey, but the swarms were few. My stocks averaged 50 lbs. of box-honey.

2d. The season for honey is over.

3d. Apple blossom, locust blossom, and red and white clover.

4th. Apple blossoms commence about May 1st, and last two weeks; locust commences to blossom about June 1st, and lasts about one week; clover, both red and white, commence about June 1st, and last until July 10th; then there is a dearth in honey-producing plants until August 1st, when the second crop of red clover commences to bloom, and lasts till about Sept. 1st.

ELIAS HERSHEY.

Lancaster Co., Pa., Sept. 8, 1875.

I had nine hives in spring, one very weak, five medium, and three strong ones. I have increased to nineteen (all artificial except two); one swarm went off in May. I have sold $55 worth of honey, about one-fourth comb, at 30c., the balance, extracted at 20c. retail. The honey was all taken by July 25th, since then they have been gaining slowly all the time, from buckwheat and weeds. We had a frost, on the 11th inst., so I suppose the season is nearly over. We had a hard frost in April, and consequently no fruit blossoms. I had to feed about $15 worth of sugar.

Fruit trees, dandelions, sugar-maple and white clover, are the best sources of supply. There is no bass-wood within about three miles of me. J. WINFIELD.

Trumbull Co., O., Sept. 15, 1875.

1st. Honey, nothing; increase of swarms, five-sixths.

2d. Prospect for the balance of the season, nothing.

3d. Only one good honey-plant, which is white clover. The trees are locust, linn and apple.

4th. Clover, first of June, continues six weeks; locust, about the same time, lasts about one week; apple, about the middle of May, lasts about one week; linn, about the first of July, lasts about one week.

A. J. FISHER.

Columbiana Co., O., Aug. 13, 1875.

PELHAM & COBB, Maysville, Ky., report for 1875, as follows: Apiaries, two. Loss in winter, ten colonies; number in yards May 1st, 51; number in yards Sept. 1st, 84. Yield of honey; extracted 810 lbs.; comb, 100 lbs. Extracted from July 1st until 10th, when rainy weather stopped work.

Best honey-plant, white clover. Second best, linden tree. Third best, black locust. Honey season (for surplus) usually begins the last of May, and ends the first of July. No buckwheat raised in this section.

September 7, 1875.

DEAR EDITOR.—1. The past winter was a hard one on bees. Nearly all died in this section. Poor honey and dysentery were the cause. I commenced the winter with twelve swarms, Italians and hybrids. Lost nine. The spring was wet and cold. bees began raising brood about June 1st. I had a plenty of empty comb, and have now fourteen strong swarms, besides losing four that went to the woods. They have enough honey to winter on, but no surplus.

2. Poor prospect for balance of the season.

3. Three best honey-plants are, clover, buckwheat, and a late yellow flower that grows on the marshes. I do not know its name. WM. MACARTNEY.

Steuben Co., Ind., Sept. 19, 1875.

1st. I had twelve colonies to commence the season with, some weak; have increased to twenty-six strong ones, and have taken 1,800 lbs. of honey, mostly of linden and bass-wood.

2d. Expect to get four or five hundred pounds more before frost.

3d. The poplar, linden and wild fall flowers.

4th. Poplar in May, linden in July, and fall flowers about the first of Sept.

W. W. OLIVER.

Marshall Co., Tenn., Sept. 9, 1875.

I commenced the season with six stands; added one swarm. Have taken 1120 lbs. of extracted, and 76 lbs. of comb-honey. Have 75 or 100 lbs. in surplus combs, not yet extracted. About 500 lbs. was gathered from sumac; the balance from a plant that I do not know the name.

G. M. HOADLEY.

Pettis Co., Mo, Oct. 6, 1875.

DEAR EDITOR:—I have 52 swarms; 48 gave surplus in supers. Have taken 3620 lbs. of honey from them—this averages 75½ lbs. to the hive. If the weather holds favorable, I shall get 4000 lbs. I don't extract much, as the comb-honey sells so much better. I get 25 cents for it by the quantity. Twenty hives averaged 100 lbs. to the hive. The bees of my neighbors will not average 20 lbs. to the hive. The three best honey-plants are, clover, linn, and buckwheat. JOHN M. BENNETT.

Bremer Co., Iowa, Sept. 10, 1875.

I have increased five weak stocks to nine good ones, and taken about seventy-five pounds of machine honey. No more honey this season.

We have five good honey plants: red-raspberry commences the last of May and lasts about three weeks. Two years ago I got all my surplus from it, as a severe drouth destroyed the clover; never got so much from it before in one season, for nineteen years. White clover commences about the middle of June and lasts three to five weeks, and is our main dependence. Bass-wood comes about the middle of July, and lasts only a week or ten days. Last year and three years ago most of my surplus was gathered from it. None this year. Buckwheat comes in Aug., lasting about three weeks; is very useful to the bees, but does not often give much surplus, as but little is raised. Golden-rod comes in Aug., and in Sept., lasting two or three weeks, and helps stock up hives with bees and honey for winter; seldom fails of helping some. This season raspberry and bass-wood failed, clover was extra good, buckwheat fair, and golden-rod doing nicely thus far.

A brother of mine, sixteen miles away, has increased one swarm to three good ones (had empty combs), and taken seventy-five pounds of machine honey.

J. L. HUBBARD.

W. Chesterfield, N. H., Sept. 6, 1875.

MR. EDITOR:—This has been a poor season for bees. From 140 stands at the commencement, I have now only increased to 190, and have only taken 5,000 lbs. of honey; that was gathered from mellilot and blue nervine. I consider mellilot the best honey-plant we have. My lowest average in eight years was 40 lbs. each; this year it seems that there was no honey in anything. I think catnip is the next best honey-plant to mellilot; of the latter, I expect to sow 40 to 60

acres next year. It will do to sow either in the spring or fall; I sow four or five pounds to the acre. If we expect profit from our bees, we must furnish them a plenty of honey-producing bloom.

Lee Co., Ill., Oct. 9, 1875. R. MILLER.

I put 80 stocks in the cellar; on March 29 I took them out in good condition, only losing two, but a few of them had the dysentery. For ten days they did splendidly. Then they commenced to "dwindle," and by the time the long spell of cold weather was over, I had 20 weak, and some queenless hives. We had no white clover nor fruit bloom. I sowed eight acres of alsike this spring. After the rain ceased, I extracted a few hundred pounds of really nice honey; it was gathered from rape. With alsike, rape and buckwheat, I think honey-raising can be made remunerative, besides the profit of it on a farm. A. STIBBS.

De Kalb Co., Ill., Sept. 13, 1875.

For the American Bee Journal.

Jottings.

Having bees, and having been associated with a practical apiarist for two years, and being an attentive student of apiculture, though on my first legs, I send you a few jottings, which will, like a "straw, show which way the wind blows," in the field covered by your journal. In Sangamon county, white clover being late, swarming was also late, of course, and when the little creatures got in the way of it, they certainly lost discretion. A neighbor bought a colony of bees at a sale in March last, and I lately passed five colonies, all natural swarms, in his door-yard, and he was expecting another. My own have not been so wild, increase *only* 240 per cent. and are now rapidly gathering nectar, which is abundant. I have both Italians and blacks, and the former will, under some conditions, have honey sealed up first, and will grow stronger without swarming. I procured my Italian stock from A. Salisbury, of Camargo, Ill., who, to my mind, is one of the most conscientious apiculturists and queen raisers of the west. You may notify your readers that a deal with Mr. Salisbury is always "on the square." He is a Christian gentleman, and I take great pleasure in referring to him, as his unostentatious manner has kept his merits as a queen-breeder and an honest dealer within too narrow limits, for the good of apiculture in the west.

The continued rains of June and July have produced a wonderful crop of "smart-weed" in every cultivated field, and roadside, and in the ditches and "swales." The golden flower of the "spanish-needle" meets the eye. In short, everything indigenous to this latitude as a fall honey-producer is in perfection, and bee raisers are happy. More anon. W. W. CURNUTT.

Rochester, Ill., Sept. 1, 1875.

For the American Bee Journal.

Practical Notes.

BEES AND GRAPES.

I have had bees and grapes for over thirty years, and I never knew them to eat grapes at any time. I have never had any of the tender kinds of grapes; mine have been the Isabella, Catawba, Concord and Diana. They grow near the hives, and sometimes shade them. Two years ago I took a cluster of Diana grapes and fastened them on a hive three inches above the entrance; the next day they were there all safe. I then took my knife and opened three, and the next day the three were eaten except the skins. I opened some more, and the next day they were eaten. Then I opened the rest, and they ate them, but did not eat any on the vines.

BEES LEAVING THEIR HIVES.

I have had bees leave their hives, and it was a mystery to me; but after a while it was plain enough. They would leave on a hot day; at first I supposed they disliked the hive, and put them in another, but after a while I found it was occasioned by the heat, so I put them back in the same hive, and then took cold water from the well and with a broom-brush sprinkled the ground and hive every half-hour until the air was cooler; and from this I learned in a hot day to sprinkle them when first hived, and also to raise the hive and give them air. I keep them in the shade.

Marcellus, N. Y. A. WILSON.

For the American Bee Journal.

Retrospection.

It is said "By others' faults, wise men correct their own."

It is desirable to be able to correct our own mistakes resulting in loss; and as far as may be, seek profit from the mistakes of others by avoiding instead of adopting them. I notice a few cases.

D. H. Ogden, Wooster, O. Seven old colonies. 25 new colonies, 40 lbs. of honey. This is 5 5-7 lbs of honey from each seven colonies. If we suppose it will require 60 lbs. for the consumption of each colony during summer and winter, we have consumed by the bees—surplus 40-1920—nearly 1-48. Then 1-49 of the product is surplus and 48-49 is consumed.

Jos. Clizbee, Woodbine, Iowa. Seven stands increased to ten—75 pounds extracted honey, 75-600=1-8; this is 1-9 of the product in surplus; and 8-9 consumed by the bees.

A. Boyd, Jay Co., Indiana. Doubled

his bees. No surplus. Much feeding required or loss in winter.

J. S. Brown, Winchester, Va. Forty-seven colonies, 200 lbs. surplus. Required for winter and summer consumption 2420 lbs. Surplus consumed, 200-2420; less than 1-12 lbs. That is a little less than 1-13 is given in surplus and a little more than 12-13 is consumed.

Should we be satisfied with a class of hives, giving us from 1-9 to 1-49 part of the product of our yields, gathered by our bees, and part of this extracted; when by adopting the best hive, we can have 2-3 of it in small surplus boxes suitable for market, at less than one-fourth the trouble and expense. With hives having from two to three thousand inches in the breeding apartment, and five to six lbs. surplus boxes of the aggregate capacity of 200 lbs. in intimate connection with the breeding apartment, from one to 200 lbs. may be averaged per colony; still the old course must be pursued.

Possibly, a survey of the whole field would disclose apiaries in hives of every class from which surplus was secured by smothering the colony with brimstone matches, by the box-hive with two or four surplus boxes on the top; by the large hive with side and top boxes; by the hive giving no place for surplus boxes, one giving surplus boxes for 20 pounds, another 60, another 100, and another 200 lbs.

That the last would be best for securing the largest amount, at the least expense, I have no doubt; but with some, the old methods are firmly and immovably established. Others have never heard of improvements; and it will require patience, perseverance, and effort to introduce to genial use, the best instrumentalities to secure the object. We depend much upon our excellent Bee Journals for the forwarding and success of the improvements. JASPER HAZEN.

Woodstock, Vermont.

For the American Bee Journal.

Comb Foundations.

DEAR AMERICAN BEE JOURNAL:—The invention of comb foundations meets a much-felt want. But don't it seem just a little as if some one in the ribbon business was making them, rather than one familiar with the wants of practical apiarists? At present they are made not to exceed six inches in width. Now, if to be cut up in strips for guide comb, this is all well enough, but many will want them to fill up entire frames. If a piece of foundation be large enough to fill the entire frame, it is easily fastened in, but if only six inches in width, then some pieceing must be done, and the bees will sometimes make bad work in such cases, to say nothing of the trouble to the operator in fastening in the pieces.

It may be thought that if a start of six inches be given, it is all the bees ought to ask, and they can make wax enough for the rest. Suppose the whole depth of comb required to fill a frame is eight inches; if six inches is furnished, the bees need to secrete wax for only two inches more, and they will readily do so, for some claim that they are better off to do some wax-making. But they will be almost sure to fill out with drone comb, thus depriving the comb foundation of half its value. Mr. Long, please give us at least eight inches in width.

B. LUNDERER.

For the American Bee Journal.

A Home Market.

All should endeavor to make as large a home market as possible. We should, before shipping our honey to the city, figure up the loss in breakage, cartage, leakage, and freight, and learn that it does not pay to ship any but our best honey—for dark honey is not in demand in the cities. I believe there is a great deal to be learned yet about the bee business. We can make a home market for thousands of pounds. The cry about adulteration, etc., has been a damage to the bee-keepers. All that "hue and cry" has been baseless and damaging to honey-producers. Consumers are now beginning to ask about adulterations, and, depend upon it, it is damaging the market. To all, we should say—keep still about it, and you will then be wise

Lee Co., Ill. R. MILLER.

For the American Bee Journal.

House Apiary.

Last Spring I concluded to try bee-keeping. I had one of "Coe's House Apiaries" built under the supervision of Mr. Coe. It is large enough to hold twenty-five colonies.

May 20th, I put in five colonies; only three of these were good for anything. I have now, Sept. 10th, 23 nice colonies, all working, and will store honey enough to winter.

This is my first experience with bees. Old bee-keepers tell me it has been a very bad season for bees. Notwithstanding this, I have taken more box-honey from my young colonies than any other bee-keeper in the neighborhood, though some of them had a greater number of colonies to begin the season with than I have now.

I think my success due mainly to the House Apiary. I do not believe any one who tries Coe's House Apiary for one season will go back to the clumsy out-door hive. I can take all the care of my

apiary, and find it only a pleasant recreation.

I see by the Gleanings that Mr. A. I. Root, of Medina, 20 miles from here, has built a House Apiary. And although he has not yet given the circumstances that led him to build it, I am quite sure he intends to do so, in justice to Mr. Coe, from whom he procured all the necessary instructions for building it.

M. J. STIBBS.

Wayne Co., O., Sept. 10, 1875.

Prevention of Swarming.

I had a little experience in trying to prevent swarming by clipping the queen's wings, as Mr. Langstroth suggests in a recent article. The queen would come out and try to travel to the swarm; but never tried to crawl back into the hive. Part of the swarm would find and cluster round her on the grass, after clustering on an apple tree. I returned her to the hive every day for about a week when one morning I found her dead. The whole swarm hung round the hive, all this time, and got so used to hanging round that they continued to do so until the young queen had hatched. When the honey season was over they had less honey than they would have had if the swarm had been hived at first. J. L. HUBBARD.

W. Chesterfield, N. H.

For the American Bee Journal.

Instinct of the Bee.

In building combs, bees make them a certain distance apart, and they should be kept frame to frame, just as the bees construct them. If artificial combs are mismatched, and not kept a uniform distance apart, such colonies will not do as well. For instance, if we take out one frame, and move the rest to make equal distances, they will be about three-eighths of an inch wider apart than the bees would naturally build, and the bees and queen could not readily pass from comb to comb. Bees go by instinct, and hence we should mark each frame, and place it back just as arranged by the bees. AARON BENEDICT.

Bennington, Ohio.

For the American Bee Journal.

Adulteration.—Mr. C. F. Muth.

On page 136, June number, Mr. C. F. Muth says: "I was astonished some time ago by one of our prominent (?) brethren, who maintained that sugar syrup, after it had passed through the honey sac of the bee, was as good honey as any." Can Mr. Muth, or any one else, tell us certainly what honey is? Is it not simply saccharine matter to which are added certain substances whose flavor indicates the source from which it is derived, as also its having passed through the bee's sac, and its having remained some time in the hive? If the securing of these three conditions makes saccharine matter into honey, why not regard syrup, in which they are found, as honey? Will not such syrup produce like effects on the person using it? Mr. Muth talks, in the same article, of the "acid" as wanting in adulterated honey; and this want seems to him to constitute the chief difference between the pure and the adulterated—an opinion which appears to me probable. This "acid" is supposed to be *formic*, from microscopic glands in the sac, and is very powerful even in the smallest quantities, if the testimony of my wife's stomach be as true as it is emphatic. There are many persons who are very badly upset by eating a little honey, who are not injured by eating syrup.

JOHN FOTHERINGHAM.

Woodham, Ont., Aug., 1875.

Michigan Bee-Keepers' Association.

The eighth Annual Meeting of the Michigan Bee-Keepers' Association will be held in Kalamazoo, Michigan, December 1st and 2d, 1875. The first session will convene at one o'clock, P. M., Wednesday. Papers of scientific and practical value have been promised by many of our ablest and most experienced apiculturists; while the discussions are expected to be even more valuable than those of the previous annual meetings. The reputation of this Society as being one of the oldest and ablest of the kind in the country, together with the proverbial hospitality of the people of Kalamazoo, should be ample inducement for all who take an interest in scientific bee-culture. We scarcely need to add that a cordial invitation is extended to all, that every effort will be made to make the coming session a grand success. HERBERT A. BURCH, Sec'y.

South Haven, Mich.

As bees breed no poison, though they extract the deadliest juices, so the noble mind, though forced to drink the cup of misery, can yield but generous thoughts and noble deeds.

The Los Angeles (Cal.) *Herald* says that at the present rate of increase it is estimated that there will be in four years one million stands of bees in Los Angeles, Santa Barbara and San Bernardino counties, which will produce annually one hundred million pounds of honey, worth $20,000,000, which is more than the value of the sugar and molasses crop of Louisiana, Texas and Florida combined.

Voices from among the Hives.

Mill Creek, Utah.—Sept. 20, 1875.—"Bees have done well in Salt Lake county, Utah, this season. In other portions of the Territory they have not done so well."

J. Morgan.

Henry Co., Ind.—Oct. 21, 1875.—"I look upon every copy of the American Bee Journal as being worth the entire year's subscription to bee-men or those contemplating embarking in the business."

Thos. Reagan.

Point Coupee, La.,—Sept. 8, 1875.—"Bees quit gathering honey August 6th, and at this date are without any honey to extract and many entirely out; yet they are very strong. Expect honey again in 10 days."

W. B. Rush.

Wyoming Co., N. Y.—Oct. 4, 1875.—"Dear Sir:—Packages of Journal came all right, and were carefully distributed at the State Fair. I could have distributed 500 each of the bee-publications to good advantage, for of the hundreds of bee-keepers, I conversed with but few who took any of the periodicals devoted to bee-culture. There was a fine display of honey—both comb and extracted. I obtained the first premiums on both kinds. The second was awarded to Peter Miller, Chatauqua Co. My comb-honey was exhibited in my glass boxes."

C. R. Isham.

Cedar Creek, N. J.—Oct. 1, 1875.—"I would suggest a few such questions as these, to be answered by the subscribers to the American Bee Journal for insertion in some number during the winter.

1st. Describe the kind of hive you prefer for box-honey.

2nd. What size of frame do you use.

3rd. State your choice as to side or top boxes; also whether bees will store more honey with boxes at the *ends* of frames like the Alley, Farmers' Friend Hive, etc., than they will with boxes at the sides of the frames, like the Quinby and Jasper Hazen hives."

E. Kempton, M. D.

Columbia, Tenn.—Oct. 1, 1875.—"Noticing in the American Bee Journal an advertisement of "German Bee Sting Cure," price $1.00 per bottle. I sent Sept. 9th, to Mr. Adair, Hawesville, Ky., for a bottle. Waited several weeks and heard nothing from him; wrote again and heard nothing from him. If others meet with the same luck that I have, I would advise all to give him the "go by."

Wm. J. Andrews.

Will Gen. Adair please "rise and explain" this matter? Did the letters miscarry, or what was the cause. We feel sure that the matter can easily be cleared up, and our columns are open, of course, for that purpose.

Publisher.

North Wayne, Me.,—Sept. 30, 1875.—"My bees have done well this season. One colony has made sixty-five lbs. in boxes. There are several bee-keepers in this vicinity, but none but myself take any paper devoted to bee-culture."

M. Smith.

Maysville, Ky.—Sept. 9, 1875.—"To show how easy it is to procure a subscriber for the American Bee Journal, I will state that to-day a gentleman came into my place of business—(which is about a half mile from where I live.) About noon I noticed an Italian worker on the window. I remarked that it was a long distance for bees to follow their keeper. He wanted to know how I knew it to be one of my bees. I told him that it was an Italian; that mine were the only Italians that were in the neighborhood; for that reason I knew it was my bee. He said he was a bee-keeper; he got up and took the bee on his finger, and looked at its yellow bands. He was surprised to hear that Italians could be raised from a queen. He subscribed for the Journal."

Wm. W. Lynch.

Malone, N. Y.—August 17, 1875.—We have had a short but good honey season while it lasted. White clover being the principal source. I have been testing the "New Idea Hive" during the past two seasons, with very satisfactory results. Bees wintered well in them, and I find them much the handiest to use extractor on. I use 20 frames, 13½ by 12 in. I have the only extractor in this part of the State, and find a ready home market for the honey, at 25 cents per pound. I have also been testing John Long's Comb-Foundation, and can say, they are all that could be desired. The bees building out the combs and the queen laying in them in four days. They are just the thing for beginners, like myself. I find the simplest way to fasten Foundation in frames is to fit a thin board inside the frame with cleats projecting beyond it. The board just thick enough to allow the foundation to rest in the center of the frame. Then pour a little melted rosin and bees-wax along the edge of Foundation and the top bar of the frame. The bees will soon finish the job.

O. L. Ballard.

"Notes and Queries" are crowded out of this number.

The report of the Maury Co. (Tenn.) Bee-keepers' Society, is received, and will appear in our next issue.

Many articles intended for this number of the Journal are crowded out by the Universal Reports for 1875. They will appear in our next.

American Bee Journal.

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Three subscribers, sent at the same time 5.00
Six subscribers, sent at the same time 9.00
All higher clubs at the same rate.

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3 Inches	5 00	8 50	11 50	18 00	33 00
4 Inches	6 50	10 50	14 00	23 00	40 00
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Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue.

Our New Club Rates.

We will send THE AMERICAN BEE JOURNAL and the following periodicals for one year, for the prices named below: THE AMERICAN BEE JOURNAL and

Novice's Gleanings for.....$2.50
King's Bee-Keeper's Magazine.... 3.25
Moon's Bee World..... 3.25
All four Bee publications..... 5.00
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The " Weekly Inter-Ocean 3 20
The " Weekly Journal ... 3.20
The " Weekly Post & Mail 3.20
The Western Rural..... 3.70
The Young Folks' Monthly..... 3.00
The Prairie Farmer..... 3.70
Purdy's Fruit Recorder..... 2.25

☞ The North American Bee-Keepers' Society meets at Toledo, Ohio, on the first Wednesday in December (first day of the month).

At the date of going to press, we have not received notice as to the arrangements made with hotels at that place, or for reduced fare on railroads. We know that members of the Society there are at work, and we are confident that all may go expecting small hotel bills, and either one-fifth fare, or to be returned free over leading railroads. Bee-keepers about Toledo were anxious to have the meeting there, and promised the Society a hearty welcome.

Let all who can, be present; that the meeting may be one that will be a benefit to all. We will issue our December number in season for notice of arrangements. Those wishing in advance of that time to know of the arrangements made may address: G. W. Zimmerman, Pleasant Grove, Napoleon, Ohio; H. A. King, Corresponding Secretary, 37 Park Row, New York, or E. S. Tupper, Des-Moines, who is corresponding with railroads.

Honey Markets.

CHICAGO.—Choice white comb honey, 18@25c. Extracted, choice white, 8@12c.

Choice white comb honey is in good demand; also bright yellow. Extracted, dull; and for dark honey there is no call.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland St., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@10c. Cuban honey, $1.00 ₱ gal. St. Domingo, and Mexican, 90@95c ₱ gal.

CINCINNATI.—Quotations from C. F. Muth, 976 Central Avenue.

MACHINE EXTRACTED HONEY IN SHIPPING ORDER:

1 ℔ jars (12 cases) per gross.....$39 00
1 ℔ " (12 jars) per case 3 50
2 ℔ " (12 cases) per gross..... 72 00
2 ℔ " (12 jars) per case..... 6 50

In bulk, 12 to 20 cents per pound, according to quality. No transactions yet in comb honey. CHAS. F. MUTH.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main street.

Choice white comb, 22@25c; Extracted, 12@14c; Strained, 6@9c.

SAN FRANCISCO.—Quotations from Stearns & Smith, 423 Front street.

White, in frames, 20@22½c. Dark, 10@12c. Strained, 7@11c. Beeswax, 27@30c.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CHICAGO, DECEMBER, 1875. No. 12.

Our New Year's Present.

In order to encourage the prompt payment of subscription to the AMERICAN BEE JOURNAL for 1876, we have concluded to make a New Year's present to all who shall *pay up all arrearages*, if any are due, *and two dollars in advance for* 1876, by the first day of January next. This present is a genuine oil-chromo, entitled, "Memories of Childhood," size 17x21 inches, designed and painted by F. B. Carpenter.

As there are but a few hundred of this magnificent oil-chromo in existence, those who want a copy of it should SEND EARLY, in order to secure it. We shall send it by mail postpaid, as fast as the remittances come, on and after the 1st of December, until all are gone.

It is an artistic combination of portraits and landscape, representing a group of four bright and beautiful children, engaged in out-door recreation under the shade of a venerable tree, from a branch of which is suspended a swing, in which sits a young girl, smiling on a lad who is holding a buttercup under her chin, as a test whether or not she loves butter; while another sweet girl, with a hoop in her hands, and another intelligent and dignified looking youth with his slate and books under his arm, are thoughtfully looking at the effect produced. There is also in the foreground a favorite Esquimau dog, which seems to take a deep interest in the proceedings; while in the background is a sail-boat on the lake lying at the base of a mountain. Flowers are in full bloom about them, buttercups in abundance. The picture is suggestive of modesty, innocence and SCHOOL-DAY JOYS. It is a delightful picture, suited to the school-room, drawing-room or parlor, and is one of the most valuable and acceptable premiums ever offered by publishers to subscribers.

Bear in mind, this is not a CHEAP picture gotten up expressly for a premium, but a genuine oil-chromo, having the imprint of the artist and the publisher, and guaranteed by us to give satisfaction.

The Centennial.

As a member of the committee for the Centennial, we are encouraged at the notices we receive from those who are preparing articles for our department of the Exhibition. Among others, John Long, of New York, writes us, and we give the following extract from his letter, hoping it may suggest ideas to others: E.S.T.

"In regard to the Centennial, I would say that I do wish to make a display in your department, and propose to do my part in rendering that department interesting. I am having constructed two observation hives, made of ornamental wood, richly carved antique Swiss style, one for an Italian swarm and the other a black swarm. These will be so arranged that the queen and inside workings of the hives will be fully displayed; the flight-board will be turned toward the wall of the building, which I will get permission to pierce and run a short tin tubing out from the hive, and put little flight-boards outside the building. I have tried this plan here, and it works well; the bees working nicely. I also propose to have two microscopes mounted on stands with black and Italian bees under each—have them entire and dissected, the objects to be mounted in the best way. In addition to this, I have some wonderful specimens of the bees' industry, such as glass castles well filled with honey, curiously wrought, urns, etc.; also specimens of comb and strained honey and beeswax from England, Scotland, Cuba, Texas, Chili, and our own country, embracing almost every known variety. The whole will be neatly arranged in a nice silver-plated show-case. If anything else comes within my reach, between now and the time to enter the goods, I will do my best to procure it, if it is an object of interest.

JOHN LONG.

522 Hudson st., New York.

Notes and Queries

ANSWERS BY MRS. TUPPER.

Please tell me how to smoke bees without injuring or killing them. This time of year they are so out I cannot put a smoking rag to the entrance without hurting them, and you say, when working among them *do not* mash *any*. How is it to be helped when they crawl so continually where they should not? I brush them back, but before I can put a honey-box on, they are out. Where shall I keep honey this time of year to keep it good? How many pounds of surplus honey should a good stand of common bees store in a season? J. M.

Do not put your smoker too near; blow the smoke among them at the entrance, and to avoid crushing the bees, have a small broom or wing and brush them out of your way, then a puff or two of smoke will keep them down.

Keep honey, at this time of year, in some dry upper room—not in the cellar.

It is impossible to tell you how much honey you ought to get from a good colony; seasons and locations differ so much. All the way from none at all to seven hundred pounds have been reported from one colony! 60 or 70 lbs. box honey is not an uncommon yield from a hive, this year, in some places; in others, even the best colonies have made no honey.

Please tell us how to cut the honey-comb and fit it to a small box of four to six pounds, which will look as if the bees had done it. My honey for market is in frames of from six to seven and a half pounds. I like to cut and fit it to the small boxes. J. M. TELLES.

Cass co., Ill.

Take the combs carefully from the frames and lay them on a folded cloth, as in transferring; cut into pieces a little larger than the box, slide and crowd them carefully into it. Put in the glass and set the box over a strong colony whose hive is filled with honey. The bees will fasten the pieces nicely in a short time, if it is done while the weather is warm.

How are we to know a fertile worker from a drone-laying queen? A friend of mine has two stocks without fertile queens. Eggs are found in both; in one eggs are found in worker cells, but the cells in which eggs are laid are extended one-fourth of an inch to give the desired length. The cells sometimes contain three or four eggs, and are left sticking to one side of the cells. In the other hive the eggs are all laid in drone cells, the bees removing the honey from them to give the desired room; the cells containing from one to half a dozen eggs or young larvæ. Both hives are unwilling to reserve queen cells and are doing very little. Are they both workers or unfertile queens? A SUBSCRIBER.

A drone-laying queen looks exactly like any other queen; a fertile worker, like a worker. It is easy to find a queen, even though she is a drone-laying one, but almost impossible to find a fertile worker. We think your friend's hives both contain fertile workers. Look over the combs and, if you find no queen, you may be sure of it.

Which is the most practical and profitable hive—one 8 frames 18 inches long and 11 inches deep, or one 14 frames 11 inches long and 14 inches deep? W. G. W.

We do not like either size of frame named, as well as one 12x12 inches. No doubt bees can be managed in any frame, but that is our preference. If bees are kept with a desire to increase as fast as possible, a hive with 9 frames each, 12x12 inches, is large enough. If you want to secure the most honey possible, make a hive to contain double that number of frames.

Please tell me how to keep my bees safely through the winter. They have done well for me this summer, and I want to be sure they will live over. We have not many cold days here, when bees cannot fly; is it necessary to house them or protect them in any way? BEEKEEPER.

If we lived in Southern Missouri, where this beekeeper does, we should try putting bees in a house or cellar. We think bees need protection just as much there as farther north. Sunny days draw them out of the hives; they consume more honey when thus excited, and there is nothing for them to gather, be the weather ever so pleasant; so nothing is gained by their flight. Whenever the season of rest comes to vegetation, we believe that it will pay to put bees away and give them a rest, too. We have never tried it in Missouri,

but we wish some one would, and keep bees in a cellar or bee-house, for at least three months, while no brood is being raised. We think they will come out stronger in spring for it.

Is it a disadvantage to the main hive to have a buckwheat swarm leave? Might it not rather be said that with fewer consumers, and a young queen, it was a gain?
D. C. M.

It would be a gain, no doubt, if the main hive were left strong in young hatching bees, and was sure of a fertile queen.

While doubling up weak colonies, how shall I prevent them from stinging each other to death? What is the best method of doubling up? S. CALLAND.

If one of the colonies to be united is queenless, there is no trouble in putting them together. If not, the queen may be taken away a few days before uniting, and it can then be done without more trouble.

If you do not care to do this, follow these directions: Smoke both colonies till quiet, then remove both from their old places; take another hive of the same kind as the ones to be united, remove the frames one by one from the hives, shaking all the bees into the empty one; then select the best combs and put them into the hive with the bees. All the bees living in a strange hive will unite quietly, and wherever they are placed, will mark the location, though we usually set them where the strongest hive was before. This can be done in quicker time than we have written it, and will never fail. We have often set a hive with the best frames arranged in it, right over the one containing the bees, and left them to go up at their leisure. It is hardly necessary to say that the combs left over must be put away with care out of the reach of robber bees.

Is it a good way to hatch out queens in small boxes over the brood? When they are hatched out, will they eat honey if it is placed in the box?
H. S. HARRISON.

We have hatched queens in this way in warm weather and had good success; but have failed when it was cool.

Young queens will eat honey rather than starve, but they do not thrive as they do when fed and nursed by the bees.

I see in the JOURNAL articles about the enemies. Our worst enemy is the martin or mud swallow. I opened the stomach of one young swallow and found 8 perfect workers in it. The law here forbids the destruction of birds' nests, and they are quite thick around this part of the State.
GEO. VAN VORIS.
West Fulton, N. Y.

Our friend need not be afraid of either the martins or mud swallows. They *do* catch insect, but prefer those which are smaller than bees. It would be well to remember that the martin is a larger bird, with somewhat different habits than the mud swallows, which one was meant?

I have heard it said that one acre of mignonette is worth 10 acres of buckwheat for bees, please answer through the JOURNAL, for my benefit and all others in the bee business. W. G. W.

Mignonette is an excellent honey plant, no doubt, but we do not think it so much superior to buckwheat. The seed for an acre would be very expensive and as it has no use but for honey, we don't think it would pay to sow it for that alone. We would like to have some one sow an acre and report.

Would you advise one who had no combs of consequence, and wanted to secure them, to purchase Long's comb foundation? Will it pay? J. C.

We answer "yes," most heartily. The comb foundation is valuable for those anxious to secure a supply of comb. It saves both time and honey to the bees, whether used in full size or in strips; to secure straight comb it is worth double its cost to the bee-keeper.

Bees here in this vicinity find next to nothing from July 1st to Aug. 1st, from which to gather honey. With what can we best supply that lack?
H. S. HEATH.

We have found nothing better than buckwheat sown from May 15th to June 1st, and coming into bloom through July, to fill the vacancy you complain of.

Does it injure the eggs, or young larva in the combs, to whirl them in the extractor? J. W. DUNN
Corpus Christi, Texas.

We have always thought, and our experience confirms us in it, that eggs and young larvæ are destroyed by whirling them in the extractor, though sealed brood

does not seem to be. Some bee-keepers do not think so.

Our bees do not often put more honey near the brood than they will need for its use, and we have found no advantage in taking honey from comb containing larvæ.

Annual Meeting North American Bee-Keeper's Society.

The fifth annual session of the North American Bee-Keeper's Society will be held in Toledo, Ohio, in the Druid Hall, 33 Washington street, on the first Wednesday of December next, (first day) at 10 A. M., to continue three days.

HOTEL ARRANGEMENTS.

We have arranged with the following hotels to entertain members of the N. A. B. K. Society; the prices named being fifty cents below their regular terms: Burnett House, corner Summit and Perry streets, Ed. Burnett, propr., $1.50; American House, St. Clair street, Gaines & Hamlin, propr., $1.50 per day; Hannah House, corner Market square and Washington street, $1.50 per day; St. Charles Hotel, Ottawa street, can entertain twenty-five or thirty at $1 per day, and is a good house. There were several other hotels whose names we forget. They will charge as above; there will be no trouble to find room for all who may attend, at the above rates.

RAILROAD ARRANGEMENTS.

We have arranged with the Toledo, Wabash & Warsaw R. R., to sell tickets to members and all wishing to attend. Tickets will be sold at 25 per cent. deduction from their regular rates. We are now writing to other ticket agents and hope to get the same deduction. I would say to all that wish to attend to enquire at their ticket office and ascertain if they have been notified to sell at reduced rates.

G. W. ZIMMERMAN.

☞In the letter of GEO. B. WALLACE, San Bernardino, Cal., published on page 256 of the November JOURNAL the printer made a mistake. Instead of his only having 32 pounds of honey, he had 32 barrels from 200 hives, besides several hundred pounds retained for home use, and several tons, yet in his two-story Langstroth hives, too dark for market. Also in answer, No. 3, instead of buckwheat, read buckwheat *grease wood.*

A NEW SYSTEM OF INSTRUCTION in the art of scientific bee-keeping has been exhibited in this office by Mr. A. G. Hill, of Kendallville, Ind. Mr. H. has seven to ten small model hives so arranged with frames on which are cards printed with representations of comb of all kinds, in all possible shapes and conditions. By means of these frames, he can explain to those unacquainted with the art of bee-keeping, how to divide and transfer, and how to so care for and arrange them as to make it a certainty in regard to successful operations. Mr. H. has gotten up type representations of comb in one-inch squares, by means of which he can produce a hundred different combs, with no two alike. With these model combs, all the operations pertaining to apiculture are performed and illustrated to instruct pupils how to successfully manage an apiary

This system is so simple and at the same time so complete that it cannot fail to interest the many thousands of farmers who keep a few stocks of bees in the old-fashioned way, and will induce them to make a science, of what they have heretofore taken but little or no interest in.

☞The adjustable table, an adjustment of which will be found in our columns, is not only useful for the purposes named, but may be used in the apiary to good advantage in securing swarms or transferring combs. Try it and see.

CORRESPONDENTS.—We point with especial pride to the very large list of correspondents to the old and reliable AMERICAN BEE JOURNAL, as exhibited in the Index found in this number. To all, individually and collectively, we offer our thanks for the very interesting matter furnished during the year 1875. We hope they will furnish us with their best thoughts and experiments during the coming year.

☞We employ no traveling agents, depending entirely upon local club agents and our volunteer friends generally, to keep up our circulation.

For the American Bee Journal.

Wintering and Springing Bees.

BY W. B. RUSH.

To the President, Secretary and Members of the Northeastern Bee-Keepers' Association:

GENTLEMEN:—Your letter, dated May 1st, was forwarded to me. Please accept my compliments for being placed on your list of honorary members, among men so worthy of the name of apiarists.

In accordance with your resolution requesting me to give a statement of my experience and results in wintering and springing bees, I will submit this paper to the Society. If it will assist in preventing the loss of bees during the winter, then my object will be attained. I had intended giving the Society an essay on bee-keeping for the whole year, but, on a second consideration, I decided to publish a pamphlet, compiled from past experiences, and the experiments of the best apiarists of the present time.

Wintering, to most Northern bee-keepers, is a serious subject, and has been for the past four winters; and the probabilities at present are that next winter will be the most trying one yet known.

But those south of the Mason & Dixon line have not yet felt the pangs of losing their bees; still, I shall not be surprised to learn of some new disease even there. There are few disputes on wintering, yet there are as many plans practiced as there are patent hives.

The summer of 1871 was an excellent one for honey, and I succeeded so well that I bought several colonies and decided to keep bees instead of dosing pills, but in the winter of 1871 and 1872 some disasters occurred, and I set about to meet them and make amends in the spring. I began different plans for springing, and commenced a series of experiments to learn for myself how to succeed. In the meantime I met with some sad losses.

In December, 1872, I found that a good many bees died, and many had the dysentery. Many were not aware that their bees were so badly diseased and starving until I called attention to it; to their surprise they found that not one-half of them would winter through. I bought a large number of weak hives, and several hundred pounds of empty comb. When I got my bees home I found several diseased and many starving. Now, what to do, was the question.

December 26th was a fine day; I then attempted to feed them, but that night it became colder; they were full and still eating. To raise the temperature, in the morning I put some of them in the cellar and wrapped a portion of them with carpets; I put ten in my room and the rest on their summer stands. All those in the room and part of those in the cellar had disease. In the room, I kept the temperature at 60 degrees. I saw they must have a flight and discharge the feces, but the temperature outside was 20 degrees above zero, and in the cellar it was 34 degrees. I let some out in my room, and they went against the glass and perished.

Jan. 1st, 1873, I made a glass box, 4 feet square on the end and ten feet long, put it in a warm room and set a hive on it; they flew out finely, discharged, went back and remained quiet. All that showed any signs of disease, I treated in the same way, and lost but one hive. During the next spring, I made a glass house to fly my bees in, which has since been called the "Bidwell cold frame," which he discovered in the beginning of 1874. Up to April, 1873, I had lost only one hive, but the next day I lost nine, by being robbed while from home.

I bought more in Feb., 1874—five with dysentery and three with foul brood. The first I put in clean hives with clean comb; I soaked the combs in tepid water for 24 hours, then rinsed them by pouring water on the combs from an elevation of six feet; I let them dry in a room and they were as good as ever. Those with foul brood I put in a solution—of rainwater, one gallon, carbolic acid, one half ounce—mixed and put in a wooden vessel. I uncapped the brood, put the combs in the solution and placed closely, so as to cover them; I left them in for 24 hours, and then took them out and put them in the extractor, and threw out the brood. I then returned the combs to a new solution and left them in 12 hours, and then extracted again. I then rinsed them as I did the others having dysentery, and dried in a room; when dry, I fumigated them with burning tar smoke.

Foul brood, in all the cases that I observed, was caused by excessive cold, and the fetid air from those already dead caused a continuation of the disease in the same hive How long it would continue to spread, I am unable to say. Combs from hives with dysentery can easily be cleaned and used again withou danger, but I would not advise any one to clean those having foul brood, although I used combs from hives that had foul brood, and did not see any evil results; still, it is *not* safe.

Cold produces dysentery in *most* cases, but not in all. I gave dysentery to two hives by feeding sorghum molasses, and afterwards saw five hives dead that had been fed sorghum. I heard that it would do so, and it proved to be true. I produced it in another fine hive by feeding "*candied honey*;" the honey became thin, fermented slightly, and (as it always does)

candied. But, where I fed as directed in this paper, I obtained fine results. I do not apprehend that either of these diseases will occur, if prepared for winter according to these directions, in October. I cannot spare time to further enumerate experiments.

There are three ways that bees may be successfully wintered, yet none will be likely to succeed unless prepared for it. Time will only permit me to give printed directions, and not experiments and reasons. What has succeeded with me for three years, just past, will certainly carry through others.

The first plan is to build a regular green-house, leaving out the propagating beds and warming by one flue at back side; then paint the glass inside with a coat of white paint, so as not to allow the bees to see out, yet retain plenty of light. On the same plan you can build a house, excavate in the side of a bank (or make a bank) sufficiently, have your sills and plates 4x10 inches, studding 2x10, front posts 6 ft. high and back ones 9 ft. high for a building 12 ft. wide. Board up the walls on outside with inch oak plank, inside half-inch, fill in between studding with very dry sawdust, tightly bank up the dirt all around except at the door (and have that double), put glass on same as on a green-house, paint the glass to obstruct the sight; build thin shutters so as to cover over all the glass and darken the room; build a small shed by the door, put under it a big stove, pass the pipe into the room and have a drum on it to warm the room. Keep the room as near fifty degrees as possible, and on warm days open the shutters and let your bees have a flight, and they may be left open without damage, during mild weather. Have ventilators at the top, and should they become too warm, open the door at night. Inside you can arrange shelves, like steps, to set the hives on. About the first of November divide your colonies into as many as you have queens, and set them in this house. Should they need food before the first of February, give it to them in a comb, and place it in the hive; and in the same way, give water once a week. First of February commence to feed a small amount of syrup made from coffee sugar A. One lb. of sugar to same quantity of water; boil, skim, set away, feed regularly in the evening, continue to feed until blossoms come, then set them out. This is expensive, but cheap in the end, and a safe way to winter. You can increase your colonies for producing your first honey; you will also save *many* bees that would fly out in winter and spring, and perish. I have seen strong colonies perish in this way.

The second and third methods require the same preparations. These preparations should begin last of September or first of October. The first thing is, be sure your queen is prolific; have plenty of young brood, and, if not already in the hive, stimulate by feeding syrup, as follows: sugar 1½ lbs., water one pint (not tincupful), boil, skim, set aside until cool, add two teaspoonfuls of lemon extract to flavor and attract the bees, and which will often prevent the syrup from granulating; warm the syrup and feed in the evening until you have plenty of brood. It is very important to have plenty of young bees for safe wintering; continue breeding until you have sufficient bees to cover five combs on a frosty morning. Feed enough to make 25 lbs. of feed in the hive, and it is *important* that it is all capped over.

The first warm day in November take tin tubes ⅞ths of an inch long and ⅝ths in diameter, which are made as follows: take tin seven-eighths wide by fifteen-eighths long, bend it around a stick until the ends meet; open your hives, take out the frames and cut holes through the combs to fit the tubes, two and a half inches from the top, and at equal distances from the ends and each other, and two tubes to each comb, put in the tubes, and close up the hive. At this time examine the condition of the hives, and see if you have them all right, and if all right, leave them until about the 25th of November, or as soon as freezing begins. See that all is right, take out one frame of honey (if there is one uncapped, take it), and put an empty frame (I mean frame with empty comb) in the center of the hive. Have with you a piece of coffee sack (good thickness) the size of the top of your hive (inside), lay over the frames crossways two strips, a half-inch square, equal distance from ends and each other; now lay on the sack, then put on the second story (if you have one) and, if not, make a sack same size of the hive and fill with chaff and cut straw, so that when pressed it will be four inches thick, lay it on the hive and put on the lid, and lay on top of lid four bricks to hold it down; but if you have the second story put it on, and put on the second piece of sack and fill in with chaff and cut straw; contract the entrance to one-half the usual size, and see that mice cannot get in. Do not disturb the bees, until there has been a freeze of two or three days, then as soon as the weather moderates, go and take the straw off, and thaw and dry it, and in the evening put on again. Much ice and dampness will accumulate in the straw and chaff, caused by the respiration of the bees, which is considerable in cold weather. Cover your hives so as to keep off snow and rain, and have boards or corn fodder to protect them from the north and west winds. Repeat, drying the straw as often as there is a thaw; keep it on until fruit bloom, for they need it most when rearing brood. Do not disturb the bees any more than you can possibly help,

and do not take off the sack next to the frames, unless you have cause to warrant the removal.

The third method. You prepare the bees in same way as in the second. The only difference is, the colonies may be weaker than in the second method, but the same in all other respects. When prepared as above, put them in any *dry* cellar, with the temperature between 40 and 45 degrees. When I say dry, I mean so dry that no dampness from rain or mold ever occurs. Then put in as soon as freezing begins; you may put them in any dry room where the cold does not get below 33 degrees, for they are far better out than if frost reaches them. As often as the weather will admit set them out and give them a flight, but be careful not to let them get very cold, for they are very sensitive to cold, and cannot endure as much as though they had been out all the time. Place them where it is quite dark, and do not let in any light, nor disturb them at all. All the noise you can make does not interrupt them, but jarring annoys them greatly.

Nuclei can be kept by the first or third methods, but not by the second, nor even a weak colony. When I keep bees in the North, again, which I shall do (if life is prolonged), I will adopt the first method for all weak stocks and nuclei, if not for strong hives, and never use the third, unless I could *not* get either of the others, for as soon as it freezes in the cellar your bees are half ruined and balance badly damaged. The point in the third is to not allow the temperature below 33 degrees, and quite dry, then all is right.

If these directions are followed, and they are standard colonies, any one is certain of success. I never lost a hive by the second method, and only one by the first, but lost several by the third; and there was only a half-inch of ice in the cellar. The second will be one mostly pursued, and if you bring your bees up to the number one point, in October, it is as good as any and much the cheapest.

SPRINGING.

On this part of my article depends the success of a good yield of honey, *if* nature secretes any of her nectar in the abundance of her flowers, but if she fails, as she did in the last three years, in almost all the United States, then "wintering and springing" avalls but little. But we will hope; still strive and look forward to the favored day for blessings.

We will once more try and winter safely as we can, then spring them, and look for an abundant harvest. Spring them as follows:

As soon as the weather will admit, commence to stimulate breeding; warm syrup scented with lemon extract, if they have need of empty comb for the queen, then take out one filled with capped honey, and insert an empty one in the centre of the hive for the queen, and as soon as filled insert another. Feed regularly, for, as soon as you stop feeding, the queen quits laying eggs, and it takes several days to start her again. It is, therefore, of great importance to feed regularly until honey comes, and, in a case of a cessation of yield, then feed again, and as soon as honey comes you are prepared to take it. Should you have weak colonies, double up, for one strong colony can raise more brood than three weak ones for several reasons—weak ones are subject to the moth; they cannot hatch many eggs at a time; they cannot defend themselves from robbers, nor gather any honey, as it requires all their force at the hive and none to go abroad for stores; also requires a greater amount of honey in proportion, to keep up the temperature; keep them strong, if you have to put four into one. I again repeat, bring your colonies up to the highest strength possible, if you would secure large yields.

SUCCESS IN THE APIARY

depends upon close attention and proper care in wintering; stimulation in springing; these regularly attended to *will always give strong stocks* for wintering and honey season. Do your swarming after honey season is over.

Simpson's Store, Pa., April 17th, 1875.

For the American Bee Journal.

A few Words from Southern California.

I feel as though I must enter my protest against some of the sweeping assertions made in the July number, by R. J. Colburn, of Chicago, in regard to the bees and honey of Southern California.

After giving to that section the preference as the greatest honey-producing country of equal area in the world, he says; "I am further satisfied, that its distance from good markets, and liabilities to the disease, known as 'foul brood,' as well as ravages from the moth, may reduce the high estimate some people have of it." True, we are quite a distance from market, but we cannot always get producers and consumers together. California wheat is the best the world produces, and it pays to ship to Europe; that may yet be our best market for honey; and at paying prices too. Then, the yield of honey is so abundent here, (in good seasons) and our losses of bees so small, that we can as well afford to ship our honey to Chicago or N. Y., as those who live nearer, and lose from one-quarter to three-quarters of their colonies every winter. As to 'foul brood,' it is something I know nothing about, never having seen any of it, nor met with any one who has in South-

ern California; but I have *heard* that there was some of it in Los Angeles Co.; and I am of the opinion that it will be found (if found at all) on low, wet lands, or near wine vats. I often hear the remark, that the two great draw-backs to successful bee-culture, in the "States," we do not have to contend with here—foul brood, and wintering.

As for the moth, occasionally, we find a worm in the hive, but not often; and I believe, with Mr. Longstroth, that a strong colony, with a prolific queen, need never fear the ravages of the moth; but a queenless one is almost sure to fall a prey to them here or elsewhere.

Again, he says: "In regard to the quality of California honey, it seems to be the opinion of every person who has tasted it, with whom I have talked, that it cannot compare with our white clover, except in looks, 'Novice' to the contrary notwithstanding. But its looks sells it." There is quite a difference in the quality of honey in different localities in Southern California. In the neighborhood of Santa Barbara—where we lived five years, and had some experience with bees—the early honey, gathered largely from alfillarilla (filarei—commonly called) is very fine; but the late honey gathered from the "tar-weed," mostly, is dark in color, and strong in flavor. The eastern part of this county, where there is abundance of white sage and sumac, produces as fine honey as the world ever saw. The early honey is equal to that gathered in Santa Barbara Co., from nearly the same plants; and the later, gathered from the white sage, I would venture to place beside *any* white clover honey to be found by *any* bees in any State in the Union. It is clear as water, thick, and of a flavor to tempt—mortals. Apiarists, who have kept bees east of the Rocky Mountains, and in California, give the palm to the white sage honey, above the white clover. The honey gathered from the sumac—not the eastern sumac—I *think*, is not quite so light-colored, tho' it is hard to determine, as it commences to flower before the white sage is gone. The white sage harvest commenced about the third week in May, and closed about the middle of July. The sumac commenced to flower the middle of June, and closed about the third week in July. I have conversed with those who have been in Los Angeles and San Diego counties, and they say that the white sage grows in great abundance in most of the mountain regions; so, I cannot but believe that the bee-keepers there get just as good honey as we do. I saw a statement in the *Bee-Keepers' Magazine*, several month ago, that a large shipment of honey had been made from California; but it was of inferior quality, and would probably remain long on the market. I understand that that honey was gathered in the neighborhood of Sacramento—how near I know not—on "tule" lands.

Now, it may be, that those persons who passed judgment on California honey, "tasted" of this honey; if so, according to all I hear, the taste of it must be in their mouths yet. I do not want to see California honey condemned on account of it, either. I am satisfied they never tasted white sage honey, or they would never say, "its looks sells it." I am sorry to see in G. F. M's. communication, in the August number, that most bee-keepers in this locality are losing money. Such is not the case here; and I do not "think the whole business overdrawn." A person cannot go into the bee-business in a comparatively new country, like this, and *live in the city*, where his family can have all the advantages of society, and make money. If he wants his bees to gather the best honey, he must *go where it is*, if it takes him to the foot of a mountain, or up a canyon. If he is able to keep his family in town, well and good; if not, let them share the hardships and deprivations, and get rich, (and I believe they will, if they stick to the business here) then move to the city and to society. Land in this or Santa Barbara counties, does not have to be irrigated to produce a crop, but if *well* farmed produces splendidly.

We started in this year with 80 colonies of bees in the Langstroth hive; have have taken off 850 boxes of honey, averaging 5½ to 6 lbs. each; shall probably take off fifty more. Have not got through extracting from the lower part of the hive, but have averaged over 33lbs to the hive as far as extracted. Have increased to 89 colonies. That will make about 1½ tons of extracted honey, and over 2¼ tons box honey. If this is a failure, I hope I may never make a worse one.

This has been a very poor season, not having any rain since Jan. 6th, to amount to a shower. We had a frost in April that did considerable damage to the bee pasture, and a dry, hot wind the 9th and 10th of May that dried up the flowers to such an extent as to nearly stop the gathering of honey, and the bees tore down all their queen cells. I have already made this letter too long to be acceptable, I fear, so will close. E. G. K.

Ventura Co., Cal., Aug. 9th, 1875.

For the American Bee Journal.

Why is It?

All our National Bee Conventions, are held in the dead of winter. If some Governmental power were to compel us to gather up our satchels, pull on our overcoats and overshoes, wrap up in our furs and push out on a trip of five hundred or a thousand miles through frost and snow,

sleet and rain, in the dead of winter, we should be very apt to make ourselves heard at the seat of power; yet annually, we impose these conditions upon ourselves with our eyes wide open, thus compelling a very large number of bee-men to stay in their comfortable homes, rather than face the perils of winter travel.

All our agricultural fairs, both State and county are held in the months of September and October, when all can enjoy the luxury of the season and feast on the fat of the land; but bee-men take back seats until all nature is frozen in. Then one by one they collect in some Northern city: say Pittsburg, Cleveland or Toledo, shut themselves in from the outside world, dispute with one another for a day or two, see nothing and learn but little. Then go shivering home to await the approach of another winter and another convention.

Now, Mr. Editor, these are my arguments for a change of time, to a much earlier day for our National meetings. To myself personally, it matters but little; but it may be of importance to the bee-keepers of America. J. W. BAYARD.

Athens co., O., Nov. 14, 1875.

For the American Bee Journal.

A Wild Swarm taken in and cared for.

While hunting wild strawberries on the first of July, 1872, I found a swarm of bees in the grass clustered on an oak grub. I put them into a Langstroth hive. They filled their hive, and made me about thirty pounds of box-honey. In 1873 they swarmed once, and both swarms made honey enough to winter on, besides about twenty-five pounds each of box-honey. In 1874 both swarmed within a few minutes of each other and of course clustered together, and, to clap the climax, both ran away. I had one more good swarm from them and two small ones, which I united, making me four good swarms to commence this year with. My surplus honey for 1874 was only about fifty pounds. I have wintered in the cellar and for fear of the bees, have, until this season, depended on natural swarming. This spring, while taking them from the cellar to their summer stands, one got tipped over, spilling out the bees, frames, and making a general smash of nearly all their combs. I had to fix up, put on my bee gloves and pick up the bees and frames with as much honey as I could, and put them back into the hive. An examination after a few weeks showed them to be trying hard to repair the sad mishap; but they were very weak in bees. I therefore changed places with this and my strongest hive. This strengthened the weak one, but the loss of so many honey gatherers from the strong hive, made them kill off their drones, under the impression that the honey supply was cut off. They both were apparently about ready to swarm on the first of August, when I took about two frames from each and made a new swarm. All three are doing finely and from present appearances will give me about fifty pounds of box-honey. My two strong stocks swarmed early; I saved both swarms, and in a few days, each swarmed again; both of these I saved. One of them not being very strong, I gave it a frame with brood from an old hive that had killed its drones. The first swarm of my two strong hives have also swarmed. The first came out unexpectedly and settled on a tree, and was not discovered until just before it took its flight for the woods. The other swarmed about the middle of August, but went back to the old hive again without settling. It swarmed again about the 30th of August and settled all right, but I thought it was "fooling," so returned it to the old hive again. I examined it however, that day and found, they had swarmed on purpose. I therefore divided giving each about half the comb and a queen cell. I examined them yesterday, both are working nicely and have plenty of fresh laid eggs. All my hives are working in boxes except the two last divided. From one of my strong ones that swarmed twice I have taken two five-pound boxes, and they have three twelve-pound boxes nearly ready to come off now. One of this season's stocks that has swarmed, now has four small boxes on it, in which the bees are working strongly, and I also took from it this morning a full box weighing between fifteen and sixteen pounds, including the box. My four swarms of last spring, notwithstanding the smash-up and one swarm lost in the woods, have now increased to ten. I have taken about forty pounds of box honey and about one hundred and twenty pounds more in sight on the hives. Our bees pasture on linn, buckwheat, golden-rod, smart-weed, and a plant looking something like "touch-me-not;" It grows in wet places, and has a yellow blossom.

MRS. MORRIS MCHENRY.

Crawford co., Iowa, Sept. 8, 1875.

For the American Bee Journal.

Amateur.

When I tell you that I have since the 10th of May, and with only one assistant, transferred 186 hives of bees, for myself and neighbors from old box hives to movable frames, and have taken over 20,000 lbs of honey, you can well imagine that we have not been idle. And the beauty of it is that we have not a *single crooked comb* in our whole apiary of 150 hives; 100 of them having 17 combs per hive and the remainder are two-story hives, with 12 combs below and 12 above, making a

total of 2,900 combs—all straight and nice.

I have been through the rub in securing straight combs, and know how to appreciate them. The best way to secure straight combs is to have all frames filled in full colonies with good queens, and an empty frame between two straight worker combs, near the entrance of the hive.

In transfering it is not expected that any one will put comb into one-half of the frames in new hives, therefore I would advise all to alternate the frames, containing comb with those having no comb, being careful not to spread brood too far apart, so that it will not be protected by the bees.

Our sage honey is much harder to throw out with the extractor than the white clover honey, or any other kind of honey for that matter. It is very thick and stiff. But I have succeeded in throwing out 1170 lbs in one day without an assistant. I fancy that there has not been many better day's work with the extractor than that. Probably you would like a discription of

MY EXTRACTOR.

It is a can made of a single sheet of galvanized iron, 2x6 feet, and makes a can 22 inches in diameter and 22 inches deep, with a bottom of the same material. The gauze frame is made by taking a square rod of ½ inch iron, 26 in. long, and drilling a ¼ inch hole through both ways 5 inches from the top and the same 16 inches (or the length of your frame) below these holes as well as the same at equal distance between the upper and lower holes. Then take six rods of iron ¼ inch and 21 inches long, cut thread on both ends of every rod 1½ inch long and have taps for same. Put the rods through the holes in the center rod, and fasten them just in the middle Now take four ⅜ inch round rods 16 inches long (or the length of the frame) fasten at both ends and in the middle, drill ¼ inch holes through, so that you can slip over the ends of the rods, you put through the centre rod.

Put on the tops first, then put on the last rods. This makes a frame work around which you can stretch your wire gauze. Have the meshes in the gauze at least ¼ square, cut the gauze the proper length to go around your frame when the taps are screwed down and sew the ends together very securely. After the gauze is well fastened, the taps can be turned out towards the ends of the rods, and tighten the gauze to any required tension; The tightness of the gauze has a great deal to do with a good extractor. Put in cross bars of iron or wood at the bottom of the gauze, on which to rest the frames. The center rod is put into a tap, soldered on the centre of the bottom of the can, with a square shoulder to prevent its jumping out. You can use gearing at the top if you like, but I prefer a good solid crank about 4 inch long. The center rod turns through a hole in a bar of wood across the top of the can and holds to its place by the handles of can, each end of the bar run through a handle and secured by pins on outside. A lid is fastened to this bar on each side. Thus you have an extractor, which will empty four combs at once, and is as light and durable as any I ever saw.

If any one has taken more than 1170 lbs of honey in one day they have beaten

Orange, Cal. AMATEUR.

For the American Bee Journal.

Nellie's Experiment.

We were awaiting the bass-wood harvest. Our bees were of one mind—determined to swarm. We were equally determined that they should not swarm. We had shaded, and sprinkled, and watched, and now and then, when the case grew desperate, we had steeled our hearts and clipped the wings of a queen.

But one bright Sabbath morning, taking treacherous advantage of our absence at church, our fair Marjorie Daw led forth her colony into unknown recesses of the green wood. Then we clipped the wings of the queens to all our strongest colonies. But colonies grow strong (or seem to) in a single night, sometimes; and so it happened that soon thereafter a large swarm was sent forth by a colony we had accounted small.

Scorning the convenient cherry trees at hand, they started in a wavering, undecided course across the oat-field, toward the woods. Over every stump they seemed to pause for consultation; now and then they fell back, but only to disappoint us by again advancing. As we followed in their wake, Nellie said,

"They fly so low—we might stop them, I believe. They shall not reach the woods," she added with sudden resolution.

Not far distant was a small wild cherry tree—so small that Nellie easily bent down and broke off its leafy top. With this she hurried on and around, stopping some little distance in front of the fugitives. At first the experiment seemed doubtful, and in the end proved but a partial success. A strong detachment of the bees returned to their hive, the remainder clustering upon the branch which Nellie triumphantly held above her head. Before returning them to the old stand, we made a careful but fruitless search for the queen through each division of the colony.

Satisfied, at length, that she had been lost, we returned the swarm and gave the colony a perfect queen-cell in place of the numerous half completed cells which we had ruthlessly destroyed.

The next afternoon the swarm again

came forth, and under the escort, as it proved, of the queen we had thought lost.

Nellie caught up her branch, now somewhat dry and withered, and hurried to the place in the oat-field where she had stood on the preceding day, and toward which the swarm was again moving. With respect to the risk she incurred, I had remonstrated sufficiently, but to no effect, the day before. So, now, I only hastened to carry a hive, sheet, etc., to the spot. The bees did not hesitate, as before, about accepting the position assigned them, and that the whole swarm would alight soon became evident.

"Is that branch strong enough?" I inquired, anxiously, as the cluster grew larger.

"Of course it is," said Nellie, re-asuringly.

"And are you strong enough to hold it steadily to the end?"

"Quite so! Don't worry, Cyula! If the swarm should come down about my head there will only be another bee or two in my bonnet!"

Just then, glancing toward the house, which had been left alone, I caught the flutter of a white dress, and a moment later had decided that the dress belonged to the minister's wife, and that the broad-brimmed straw hat, just coming round the corner, was worn by the minister himself.

"What shall we do?" I cried, painfully conscious that I could not leave Nellie alone with that mass of bees above her head.

"Perhaps they will not see us, and will wait a little to rest in the shade," suggested Nellie.

Vain hope! we were espied the next moment, and our guests advanced curiously to the edge of the oats, where, after such exchange of courtesies as was possible at that distance, they stood witching the scene.

It was very warm. The sun beat down fiercely alike upon our callers and ourselves. Nellie stood motionless as a statue, holding her loaded branch aloft with both hands. I fancied that her wrist trembled a little now and then, but this she indignantly denied. The bees were gathering with usual rapidity, but the moments were unusually long.

Nellie had just promised to let me help her lower the bees, if I would but wait for them to gather, only one moment longer, and I had turned once more to see if our friends were still watching us, finding, to my relief, that they had retired to the shadow of the house, when, suddenly, an ominous, sharp cracking behind me——

I am ashamed to say that I did not even turn my head. I only jumped a long way further on.

The catastrophe was almost simultaneous with the warning. As I turned, the mass of bees came down with the broken branch. Fortunately, Nellie had been able to give it a partial inclination and the greater portion struck the sheet. But it is needless to say that bees were sent flying and falling in all directions. Never before had either Nellie or myself been caught in such a shower. Nellie, as was natural, was the more plentifully sprinkled. To my breathless inquiry—"Are you stung?" she responded,

"No! hurry them into the hive, Cyula, and don't mind me!"

But a moment later, when she had shaken the bees from her hat and dress and stepped back a little, I heard her murmur—

"One, two, three, four,—only four."

Then I ordered her to the house forthwith; and mindful of our neglected guests, if not of my suggestions of ammonia, etc., she obeyed.

When, after a little time, I was able to follow, I found her regaling our guests with the last strawberries of the season, and entertaining them with a description of our adventure. She was dwelling upon the narrow escape Cyula had had, and the *presence of mind* (!) Cyula had shown in springing forward at just the right moment, almost from under the falling swarm. Despite the fact that her hands were swollen to a more than comely plumpness, and that one cheek bore ludicrous resemblance to that of a provident chip-munk, she had evidently succeeded in conveying to our friends the impression that her own share in the transaction hah been of quite secondary importance.

As soon as I could obtain a hearing, I proceeded to reconstruct Miss Nellie's statement,— i. e., to put her facts into their proper relations, and to set them in their true light. And then, honor having been awarded where it was due, I decreed that this should be the last experiment of the kind that should be tried in our apiary.

"Yes," said Nellie, "for next time I will make sure that the branch be perfectly fresh and strong!"

CYULA LINSWIK.

For the American Bee Journal.

Maury Co. (Tenn.) Meeting.

The Maury County Bee Society met at the Recorder's office on Saturday, the 9th. There was a good attendance, nearly every portion of the county being represented. The meeting was called to order by Mr. W. S. Rainey, after which the minutes of the previous meeting were read and adopted. The constitution submitted at the last meeting was taken up and acted upon, section by section. Articles first, second and seventh adopted as read. Ar-

ticle fourth, so amended as to make the term of office twelve months, and the number of the Executive committee, three. Article fifth, amended to make all committees, except the Executive, appointable by the President. Article sixth, the stated meetings were fixed on the first Saturdays in January, April, July and October. Article eight was so amended as to require all amendments to the constitution to be made at a regular stated meeting. The constitution as amended, was then read and adopted as a whole.

The society then went into an election of officers for the next ensuing year, with the following result:

W. S. Rainey President; C. C. Vaughn Vice President; Wm. J Andrews Secretary and Treasurer; Dr. A. T. Boyd, David Staples and J. J. Jones were elected as the Executive Committee.

After the close of the regular business Dr. A. T. Boyd delivered an address on apiculture. We will not attempt to give the whole of the lecture of the Doctor, but simply the heads of the different points he touched upon. In the first place he spoke of the kind of HIVE which should be used, that no one could be a bee-keeper and thoroughly understand his business, unless he used the movable frame hives.

SWARMING.

He did not believe in artificial swarming: preferred natural. Spoke at some length of after swarms. Thought one swarm sufficient and that all after swarming should be prevented. He clipped the wings of his queen; then when they swarmed, the queen fell upon the ground and he had no trees to climb nor large limbs to saw off. When the queen came out and fell to the ground he covered her with a small box; he then moved the hive from which the swarm had issued to a new position some twenty or thirty feet distant, and placed a new hive on the old stand. That as soon as the bees missed their queen they would return to the spot from whence they had issued in search of her. When they had sufficiently settled, he released the queen from the box in front of the hive, and allowed her to crawl in to the bees. His experience was that the moving of the hive from which the swarms had issued, would as a rule prevent any after swarms, but it was not infallible—that he had known after swarms to come from them. He made it a rule to return all after swarms to the hive from which they issued, and had never known bees to desert brood.

AGE OF BEES.

It had often been said that bees were short lived; this he was fully aware of, and any one could very easily satisfy themselves on that score. He had himself removed on the 12th of August a black queen from a hive that had only black bees in it, and introduced a yellow queen, and to-day it had very few black bees in it—in fact, it was difficult to find them. This went very clearly to prove that the bees were very short-lived, that a great many were destroyed on the wing. It was therefore very essential to have a fertile queen to keep up the stock from the waste of life.

VENTILATION.

There should be upward ventilation in winter. The bees themselves would generally regulate their own ventilation. Winter ventilation was necessary to prevent combs from becoming mildewed and from freezing.

ANGER OF BEES.

He had found all kinds of bees different in their anger. Some of the same species being more gentle and much easier handled than others. The best thing to subdue their anger, was to make them fill themselves with honey; a bee filled with honey never wants to sting. Bees always filled themselves with honey just previous to swarming. Another thing to prevent them from becoming angry, is gentle and quiet handling; a person should never make any quick motions about their bees, but their movements should be slow and deliberate.

THEIR ENEMIES.

While the bees had many enemies, he regarded the moth the worst, but with good strong colonies and a fertile queen, they were not to be dreaded. Moth-proof hives were a delusion and a humbug. The Italian bees protected themselves better from the ravages of the moth than the black bees; had never seen a black bee working at moth webs, have frequently seen the Italian at it.

REARING QUEENS.

On this subject he deemed it useless to say very much. It was presumed that every bee-keeper understood this branch of the business. Queens were hatched in about twenty-one days, and were fertilized in the air. Unfertile queens were drone layers— a fertile queen will commence laying in a few days after being hatched, an unfertile in about three weeks. The queen is much longer lived than the worker bee. They frequently become barren when two years old. Queens are enormous eaters. They lay from one to three thousand eggs a day. Early reared queens he regarded as much the best.

THEIR KEEPERS.

Thought the bees were controlled very much in all their acts by scent more than sight. Thought they knew their keeper from other persons by the scent of his body.

WINTERING BEES.

Their supplies frequently became exhausted during the winter and early in

the spring. In that case they should be fed. Sugar candy he thought a very good food, but honey was the best. In the spring there was usually many disagreeable days—during such days it would be best to feed all a little. He prepared his bees for winter by putting cotton, mote and seed on the top of the hive, which afforded them sufficient ventilation, and absorbed all dampness and prevented a cold draft through the upper part of the hive.

The above is but a poor brief of the Doctor's remarks. He said he intended talking on several other points pertaining to bee-culture, but found that he had already taken up too much time. At the close of Dr. Boyd's remarks, Mr. David Staples made a few remarks. He differed with the Doctor about upward ventilation, he did not want any in his hives—thought paper the best absorbent to use. He extended his remarks at some length on his system of Rarey-ing bees, as Rarey did animals. He introduced queens by shaking them from the frames and subduing them, until they become perfectly quiet and peaceable. He then dropped the queen among them and let them re-enter the hive together. Mr. Staples said he had been working for some days in sorghum, and had noticed that his bees worked very freely on the stumps of the cane. The species of sorghum that he had cultivated was what was known as the red-top variety. In cooking the syrup the bees rapidly took up any that was dropped. He had examined his hives and found that they contained pure sorghum syrup. He intended trying an experiment with a half dozen hives by extracting the honey and feeding them on sorghum and thought it might be a cheap winter food. It had been tried North—knew that it would not do there, but thought it might do South. Mr. Staples continued his remarks to some length on feeding—as a stimulant to bees he always used sour syrup, as they would not store it in their cells.

Mr. J. J. Jones differed with Mr. Staples, and said his bees would not eat sorghum. In reply to a question as to the best preventive of ants it was decided to be diluted salt.

The subject selected for discussion at the next meeting was "Feeding bees—its mode, object and result" and also "Queen rearing."

Wm. J. Andrews offered the following resolution which was unanimously adopted.

Resolved, That all the Bee-keepers of Maury county be invited to each meeting of this society, but only those who pay the society fee, and sign the constitution to be entitled to a vote or to participate in the business of the society.

W. J. Andrews stated to the society that Mr. Horsly had informed him that he would be glad to have any communications from any of the members on the subject of bees, which would be of a local nature.

It was moved and adopted that Mr. David Staples, be requested to deliver a lecture at the next meeting, and in the event of his being unable to be present that S. D. McLean should do so.

The society then adjourned to meet again the first Saturday in January, 1876.

WM. J. ANDREWS,
Secretary & Treasurer.

For the American Bee Journal.

The Southern Kentucky Bee-Keeper's Association.

The Association met at Burksville, Ky., on Wednesday, Sept. 15th, 1875; officers present: Dr. N. P. Allen, President, H. W. Sanders, Secretary, R. A. Alexander, Assistant Secretary.

The President called the meeting to order. Prayer was offered by Mr. R. A. Alexander, of Warren county.

On motion the calling of the roll was postponed. The proceedings of last meeting were read by Assistant Secretary R. A. Alexander. On motion the same were unanimously adopted.

The following named persons became members of the Society:—

Jas. H. Richie, Burksville, Ky., T. H. Hancock, Burksville, Ky., Geo. N. Allen, Grider, Ky., Ed. B Pace, Marrowbone, Ky., F. C. Baker, Burksville, Ky., J. G. Allen, Grider, Ky., Mrs. Jane E. Allen, Grider, Ky., Miss. M. L. Allen, Grider, Ky., Mrs. Lucy Hancock, Burksville, Ky., H. C. Baker, Columbia, Ky., Daniel E. Baker, Burksville, Ky., J. B. Allen, Grider, Ky., Mrs. H. M. Richie, Burkesville, Ky., Mrs. Josie Dunn, Burksville, Ky., Mrs. Lou Pace, Marrowbone, Ky., Mrs. Bettie Cheek, Burksville, Ky., R. M. Cheek, Burksville, Ky., Jas. A. Gilmer, Burksville, Ky., M. G. Akin, Grider, Ky., E. Ammons, Burksville, Ky.

President Allen made an instructive and interesting address which was favorably received.

A communication was read from Mr. Frank Benton, of Knoxville, Tenn.; and the Secretary was requested to return the sincere thanks of this Association to Mr. Benton, for the very valuable information contained in this paper.

Deferred business. The third question for debate, left over at the last meeting, was then taken up:—"What is the best vegetable to cultivate for bees to gather honey from?"

Mr. Cheek said, he thought buckwheat the best, as it could be sown so that it would bloom in July and August, and furnish rich pasture for our bees when there was none to be had from other sources.

Mr. Alexander said, I would sow turnips in the fall, for early pasture for bees in the spring. It furnishes pollen in abundance. Then came fruit blossoms and white clover, which pays, not only for bee purturage, but are valuable crops to cultivate. Then, there is mustard, catnip and buckwheat that are rich honey-plants.

Mr. Hancock spoke as follows:—Mr. President, I see no reason why these hills should not flow with milk and honey. I now propose to become a teacher—have others do the manual labor and I will do the head work. I think we should cultivate the honey-locust in hedges, and hedge up all this ridge land, and plant it in fruit trees, and sow it in white clover. The clover is fine for hogs, the apple crop is valuable, and if boiled and fed will pay better than making brandy.

Mr. Richie remarked, I think the honey-locust a good honey-tree, but it will not bloom in hedges, and it is not pleasant to come in contact with, as it is full of thorns. I agree with Mr. Alexander in regard to the turnip bloom, as it affords early pasturage, that is invaluable.

The President said, that turnips and all the small and large fruits afforded excellent bee parturage, but that the white clover stands at the head of the list as a honey-plant, affording the finest honey and the greatest yield of all the honey-plants. The poplar, linn, sour-wood, and other forest trees might be cultivated with profit. For late summer and fall pasturage he would recommend catnip and buckwheat.

On motion, the President appointed the following committees, with instructions to report at afternoon session:—

Committee on state of Bee Culture in southern Kentucky, with instructions to report the number of hives owned by the members of this Society, the kind of hive, the variety of bees, and their value:—

R. A. Alexander, H. W. Sanders, F. C. Baker, R. M. Cheek.

Committee on Questions for Debate at evening session:—

Wm. Cheek, T. H. Hancock, H. C. Baker, J. H. Richie.

Committee on Hives, Extractors, etc.:—

R. M. Cheek, James H. Richie, M. Hancock.

The Society adjourned till 2 o'clock P. M.

AFTERNOON SESSION.

The Convention met, President in the chair. The question was taken up:—"When should bees be fed?"

Mr. Alexander said, for stores to winter on, feed in early fall with sugar syrup in time for them to cap it over. To feed for brood raising in early spring, commence about six or eight weeks before the honey-harvest, so as to have them strong when the harvest comes.

The President agreed with Mr. Alexander, and said, they should be fed when they are gathering no honey, in the spring or in the summer, during long wet spells or excessive droughts. It was often the case that they would stop brood-raising; a little feed at such times paid well.

Mr. Richie said, he had found feeding for brood raising very beneficial. He gave an account of a natural swarm that he gave a sheet of brood-comb, and in two weeks they had filled their hive full of comb, every cell being filled with honey, and not an egg or young bee could he find in the hive. The bees swarmed and he hived them in a new hive. They did well, filling the hive with comb, brood and honey.

Mr. Cheek said, the most important time to feed was about six weeks before the honey harvest was expected. To continue feeding up to the time the bees began to gather honey, then the hives would be strong in numbers, and the extractor could be used every four or five days.

The committee on Questions for Debate reported the following, which was adopted:—

1.—The best time and manner of transferring bees.

2.—Moth preventatives.

3.—How to winter bees most successfully.

The committee on Extractors and Hives reported as follows, report adopted:—

We have examined some kinds of extractors and hives, and think an extractor with a stationary can the best, and recommend the Langstroth hive.

Your committee with instructions to report the number of hives owned by the members of this Society, the kind of hives, variety of bees, etc., have not been able to get a complete report from all the members, but beg leave to report the following:—

Number of black bees in box hives, 101. Value of same, $505.

Number of black bees in movable frame hives, 284. Value of same, $2,840.

Number of Italian bees in movable frame hives, 234. Value of same, $3,765. Total $7,110.

The question was then taken up, "The best time and manner of transferring bees?"

The President being called on, said, he preferred early spring for transferring, as there was but little brood in the hive then and not so much honey. The combs were lighter and could be handled easier and with better success. As to the manner, he would first blow in smoke at the entrance until the bees were subdued, then invert the hive and place on it a box to secure the bees, tie a cloth around to keep the bees from coming out, and by drumming on the hive fifteen or twenty

minutes, the bees with the queen, would pass up into the empty box, which could then be set on the old stand and the sides of the old hive could be pressed off, and the comb, brood, and honey taken out, put in frames and hung in new hives. Preferred wire to hold comb in frame. Put the new hive with the comb, etc., where the old hive stood, or in a new place if preferred, and proceeded to hive as a natural swarm.

Mr. Cheek said, his manner of transferring was similar to Dr. Allen's, but preferred driving out the swarm, putting them in a new hive and waiting until the old hive would raise a queen before transferring.

Mr. Hancock said, he preferred to have a young queen to give the hive instead of waiting for them to raise a queen, as they would not lose any time on account of being queenless.

The remaining questions were left for debate at the next meeting of this Society.

On motion, the following persons were appointed to collect the best honey-producing flowers in their respective localities, and to send specimens of all flowers of a doubtful names to THE AMERICAN BEE JOURNAL, with the time of blooming, etc., requesting the true name; the committee requested to report at the next meeting of this Society:—

Wm Cheek, Cumberland Co., Ky., B. A. Alexander, Warren Co., Ky., H. C. Baker, Adair Co., Ky., Dr. Stevenson, Barren Co., Ky., James Erwin, Allen Co., Ky., T. E. Shelton, Logan Co., Ky.

The thanks of this Society were tendered to the Grange for the use of this hall, and to the citizens of Burksville, for their hospitality.

On motion, the Association adjourned to meet on the third Wednesday in October, 1876, at 10 o'clock A. M.

N. P. ALLEN, President,
H. W. SANDERS, Sec.

For the American Bee Journal.

Two Queens in one Hive.

In April, 1872, I purchased a hive of "Crugers" in box, and when I transferred to movable frames in May following, I found queen cells capped and nearly ready to hatch; a laying queen, which from appearance, was at least one, if not two years old (it was too early in the season for a queen to have mated, as no drones were then flying,) and an old queen very much reduced in size, with wings almost entirely gone. She must have remained from the previous summer in the hive with her daughter.

In May, 1874, I formed a mammoth hive of 32 frames from my other stocks, by taking brood from those likely to swarm, and introduced a very prolific queen. On June 16th, I found queen cells nearly ready to hatch, which I removed. On June 23, I again examined the brood nest in the same hive, which was arranged with two entrances, one at each end, and found queen cells capped but no queen was to be found. The young queen became fertile, and took charge of the brood department. On August 9th, I examined the entire hive, and found to my surprise, that the old queen had removed to the other end of the hive and was mistress of an independent colony while her daughter occupied the old brood nest. They remained in that condition until in the latter part of September, when I separated them by a division board.

I now have a colony, situated at some distance from my apiary in which there has been two queens since about the 20th of July last. The mother is purely fertilized while the daughter has mated with a black drone. The larger portion of the stock is now hybrid, yet there are some young bees which I am satisfied are the progeny of the old queen. On examination last Monday I found both queens on one card, both apparently engaged in laying eggs, but the older one much less active than her daughter. If she is there when next I visit the vicinity, I will remove her and introduce her to a new colony, with a view of testing her ability as an egg layer. She is only three years old, but was crippled in her wings, by the bees when introduced to her present home; since which time, I have prevented her swarming by dividing, except in one instance, in 1874, when she was returned to the hive, after a vain effort to go with her swarm.

There will be no surplus honey in this locality this year. My hives are at this date, Sept. 17, crowded with brood and very populous and well supplied with honey in brood department, and if weather is favorable I may be compelled to extract some from the center of the hives as the queens become crowded out of laying room. Success to THE AMERICAN BEE JOURNAL.

J. E. R.
Lima, Ohio.

Burying Bees.

As there seems to be such varied success in wintering bees by burying them, I will endeavor to give my experience. Before I commenced bee-keeping in movable-comb hives, I was very much interested in the business by reading the *Bee Keeper's Journal* and the Text Book, and thought I had learned enough from them to make me a successful bee-keeper; but I soon found that I was mistaken; that I would have to learn more from actual ex-

perience than I had ever learned by reading, if I ever became a successful apiarist.

One fall I had thirty stocks of black bees, and not having a cellar to winter them in, I concluded to bury them, as I had read considerable in favor of it. I dug my pits long enough to hold from three or four to ten stocks each, and wide and deep enough to pack under and around and between them with corn stalks, and over them with straw, and then have the tops of them just below the surface of the ground. I then covered them with six or eight inches of earth, as near as I could guess. My hives were of various kinds — movable-comb and some box hives—in most of which I had made large openings in the tops for obtaining box honey. The box hives I placed in an upright position, except one or two that I laid on the side.

The movable-comb hives I placed in an upright position with the caps off, and put the straw on the frames. Before I put them in the pits I depopulated seventeen (17) of them, according to Mr. Hosmer's plan. I buried the thirty stocks with the full expectation that I would take out thirty all right in the spring; but during the winter I became somewhat uneasy about them — perhaps occasioned by something I had read — and wrote to Mr. Hosmer and told him how I had managed my bees, and asked him what he thought about them. In reply he said, They are, in my opinion, all right. I then rested easy about them until I took them out in March, when, to my sad disappointment, I found seven stocks dead; the other twenty-three varied from a handfull of live bees to a full stock in good condition. Of the seven that were dead, some of them were very wet, while others were dry as dust. The stocks that were depopulated came through by far the best, on an average, though one box hive lying on its side, came through best of all, and it was the only one that I considered in first-class condition. Quite a number of them that were not depopulated were nearly destroyed by the moth-worms, it being warm enough in the pits to keep them breeding all winter.

Almost immediately after I got my bees out of the pits they began dwindling away, and I kept losing and doubling up stocks, until the honey season came on, when I had but five stocks left, all in the Star movable-comb hives — having transferred my box hives — but two of which got strong enough to swarm that summer. I then depended on natural swarming, which is a thing of the past with me now. I now have mostly Italians, and get large yields of honey and a good increase of stocks, and consider them far superior to the native bees. S. K. Marsh.

Ionia co., Mich.

For the American Bee Journal.

What is Honey?

In the November number of The American Bee Journal, page 262, Mr. Fotheringham differs with me in regard to honey. Our apparent difference of opinion is only a misconstruction of the sentence. I agree with him that honey is a saccharine matter to which is added certain substances, whose flavor indicates from what it is derived. Hence, we may say: All saccharine matter that has passed through the sac of the bee, is honey; but the quality is determined solely by the source from which it is derived. We have, therefore, white clover, white sage, fruit blossom, locust, buckwheat, catnip honey, etc. White clover honey, because the saccharine matter was collected by the bees from white clover blossoms, and so of the other varieties.

If we feed our bees with sugar syrup and they deposit it in their cells, that deposit might be called honey, also; because it passed through the honey sac of the bee, and had imparted to it the acid peculiar to honey. We should perhaps call it "cane sugar honey." But I claim that it is not as good as white clover honey. Were I to buy it, I should only pay the lowest figure for it.

We cultivate a taste for a certain kind of coffee or tea, and I suppose the same rule holds good in regard to honey. In our white clover country, for instance, I find that white clover honey is the article preferred, while I am told by friends that in Michigan, Wisconsin, Iowa and Minnesota, bass-wood honey has the best reputation there.

I think it was the Rev. L. L. Langstroth, our teacher and benefactor, who first advanced the idea that bee poison produced colic in some persons. This bee poison is seen on the stinger of every bee when irritated, snd shines still, on the comb, after the stinger has disappeared. If introduced into our skin it produces swelling; and if eaten, although in a dry state and unobserved, it produces colic. This poison, drying up on the comb and adhering to it, is very likely the cause why persons are not so affected when eating machine-extracted honey. It is generally hard to persuade a person, once prejudiced to the use of honey, to give the matter a fair test. But in several instances where this matter came under my observation, I found it correct.

Many of my friends, when offering honey, will assure me that their honey was well ripened and capped before extracted. To all such I say, that when I buy their honey, it matters not whether it was capped or ripened before extracted or not. It is of much more importance to know that the honey is clover, buckwheat or bass-wood honey, or whatever else it

may be. To keep each kind by itself, is the principal thing in my estimation, and this cannot generally be done by waiting until the honey is capped. Ripening, as Novice calls it, is better done in an open vessel than in the bee hive.

Cincinnati, Ohio. CHAS. F. MUTH.

For the American Bee Journal.

Comb Foundations.

THOS. G. NEWMAN:—On page 261 of this month's Journal appears a communication signed "B. Lunderer." In reply to which I send you a letter giving the experience of a bee keeper. I have other letters agreeing exactly with Mr. Gardner and in direct contradiction to your correspondent's experience. JOHN LONG.

MR. LONG:—Since writing you, we have had a good yield of honey from the *Aster*, and I have given your foundations a trial in some of my strongest colonies, and although bees at this season of the year are not disposed to build comb, nor even to lengthening out partially-built ones, owing, I suppose, to the cool nights, yet I find that they have built out the cells on the foundations to nearly the full length, and have also in several instances extended the comb to near the bottom bar of the frame, *without one drone cell.* This of itself is one great advantage, as a great many colonies are prone to build drone comb at all seasons of the year, and thus ruin the stock, as they soon have too few workers to store more than the drones will consume.

J. R. GARDNER.

Christiansburg, Va., Oct. 14, 1875.

Voices from among the Hives.

WARREN CO., OHIO.—Nov. 12, 1875.—"I have 140 stands of Italian bees. Have kept bees for 50 years. I am well pleased with the JOURNAL and could not well do without it." JEREMIAH WOOD.

BUTLER CO., IOWA.—"I have done well with my bees. I wintered ten swarms; they came out well and increased to twenty-two; I have taken from them 350 lbs of extracted honey."

E. EIKENBERRY.

LA PORTE CO., UTAH.—Oct. 29, 1875.—"Three years ago I started with one colony of Italians, and divided twice the first year, once the second, and was left with one colony every spring. I doubled my hive this year, and took but two cards of honey from the two hives, so as not to rob them. They have increased their number four times, at least, and the hives are full of honey and brood."

MRS. H. MADSEN.

VERONA, LEE CO., MISS.—Nov. 6, 1875.—"I see in last number of BEE JOURNAL, that W. J. Andrews sent $1.00 to Adair and cannot hear from him. In April 1874, I sent him $7.50 by registered letter. I got his return receipt for the letter. I have written to him repeatedly since, and have never heard from him since.

T. W. JOHNSON.

SANTA ROSA, CAL.—Oct. 31, 1875.—"I was glad to see the report of P. H. Bohart. I sold him one-half of my bees before leaving Mo. There are but few bees kept in this county, and I think I shall return to Mo., in the spring. If any one has a good home in the States, he should remain there." JOHN SHEERER.

KAUFFMAN CO., TEXAS.—Nov. 15, 1875.—"I had poor success this year, did not average one swarm to the hive, and only about 15 lbs of honey. Honey locust, wild plum, and horse mint are the three best honey plants here. The first two bloom in early spring, and last about three weeks—the other in summer when other flowers are scarce, and continue about six weeks." A. H. R. BRYANT.

CEDAR CO., MO.—Oct. 30, 1875.—"Last spring I commenced with two Italian colonies, bought from E. Liston, Virgil City, and nine others in box and log gums. I transferred the nine with success, and increased to twenty-five—three natural and eleven artificial swarms. I extracted 2,000 lbs. Having purchased five more colonies, I have now thirty, all in good condition." J. F. LYNN.

LEBANON, IND.—Nov. 10, 1875.—"The friend of bee-keepers for this month, has arrived. I find its pages full of valuable information both for novices and vetrans in apiculture. I commenced bee-keeping in the season of 1871. The first year I had one colony affected with dysentery. The next year I increased to 14 and lost all but one in wintering. In 1873 I increased that one to nine and wintered all safely. In 1874, I increased to 16, and lost all but two with dysentery. This spring I increased to three, but can report no success till Aug. 15th. Take all the time, I have had about enough surplus to keep even with expenses."

M. L. HOLLINGSWORTH.

MARSHALLTOWN, IOWA.—Nov. 1, 1875.—"I put nine stands of bees in the cellar in the fall of 1874; three died before spring; four more before flowers came. I bought two more in spring and one of those died, leaving three when flowers came, with plenty of comb and considerable honey, all the stands leaving some honey. I divided the three till I have eleven, using the old comb and honey. This fall I have fed the eleven, 100 lbs coffee A sugar, and think they are strong enough in bees and stores to winter. I

have watched our groceries for box or extracted honey and have talked with many of the bee-keepers of this county, and I don't believe it will average one pound of surplus honey to the stand, take the county through—the bee business certainly has not been encouraging to beginners, here." O. B. Barrows.

Newburg, N. Y.—Nov. 17, 1875.—"One year ago last Spring I commenced to keep bees. Bought two box hives with black bees; one a good one, in an old rickety box hive, having plenty of bees and white comb, the other almost worthless: they both swarmed. One made 25 lbs of box honey, the other about 12 lbs. During the summer I received 18 hives on shares, in all kinds of hives. Seven were Italians, the rest hybrids and blacks. I put them all in celler but two, on December 1st. Took them out April 1st. All wintered first-rate and it seemed as though they had not consumed 10 lbs each. I cleaned out each hive as I set them out, before they got warmed up, and had no trouble in doing it. I fed some rye flour, but they would not take much of it; I did not feed any honey or syrup. I lost five hives during April and May.

"The two wintered out-of-doors was so large I could not get them into the cellar; one of these the mice destroyed, the other came out first-rate though it has not swarmed or made a pound of surplus honey. They were well prepared for winter, by opening the holes on top and putting a stick across; over these I put a thick carpet, on the carpet was six inches or more of waste hair that I got from the Brush Factory, and over all, thick paper well pressed down. Hair is a much better thing than husks or bran, as it is always dry and retains the heat. Those that wish to winter out-of-doors should try it; they would never use anything that retains moisture again.

"My bees commenced to swarm June 14th, not one-half of them have swarmed. I have now 24 good, large swarms in good shape for winter; made one artificial swarm and one nucleus. One of black bees, in my new kind of hive, has made about 70 lbs of box honey; one Italian, in Langstroth hive, about 60 lbs, and one 40 lbs, and so on down to nothing; some neither swarmed or made a pound of honey. I had, on June 1st, 17 hives and one of them queenless; I gave them brood twice and saved them. I have about 320 lbs from all together in four lb boxes, which I sell at 30 cents per lb, and all is sold but 28 lbs, and that will soon be. I have a Novice Extractor, but have not used it yet and do not think I will much, as box honey sells much the best.

"The principal source of honey in this section, is apple blossoms, locust and white clover. We have no bass-wood and only a few tulip trees, about one mile off.

"Last winter killed off about all in this section. One man had 40 hives, wintered on their summer stands, and lost every one; and others lost nearly all. These people usually get a few pounds of mussed honey, as I call it, by killing their bees in the fall, and they hardly believe it when I tell them I got 70 lbs in boxes from one hive, in as poor a season as this.

"I think you have struck the key note, when you requested bee-keepers to report the honey-producing plants, etc. It is a great pleasure to read how others have done, even if we cannot do as well ourselves." M. D. DuBois.

Henderson Co., N. C.—Nov. 9, 1875.—"Bees commenced to gather pollen Feb. 26th, from the *alder;* the fruit trees bloomed out early, but were all killed. We had a late, cold, backward spring and large numbers of hives that went safe through the winter, died before they could get honey to save them. My first swarm was on the 22nd of April, which swarm, gave me 64 lbs of surplus honey in the comb and filled a Quinby hive. I furnished them three sheets of comb; the hive they came out of gave me four natural swarms, and they are all in a good condition to go through the winter. That hive and its increase gave me 90 lbs of honey, and four good hives. I had under my charge 25 hives of bees, most of them weak, some of them (four hives) had just built up strong enough to go through the winter. Six I had to unite with others. Seven swarms went to the woods; six of them were two miles from me; I now have 40 hives in good condition to go through the winter. We had a killing frost on the 18th of May that killed most of the tulip blooms, black gum and wild cherry.

"The three best honey-producing trees are the tulip tree, red sumac and sourwood. The tulip commences to bloom about May 18th, and continues three weeks; the red sumac commences the last days of June or first of July, and about the time it is in full bloom the sourwood commences; the sumac is in bloom about 10 days and the honey is so plenty on them that it looks like a small swarm of bees settled on it.

"The sourwood commenced to bloom this year July 3d, and lasted 26 days, from which we always get most of our surplus honey. These trees grow readily from seed, or by transplanting; the golden rods and asters have done better this fall than I ever knew them to do before. On the 23d of September, the bees for one hour and a half brought in honey far ahead of anything I ever saw before, it was like a swarm returning. We had a killing frost on the 25th of Sept.; bees carried in the last pollen on Oct. 23d."

Robert T. Jones.

THE AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

Thou cheerful Bee! Come, freely come,
And travel round my Floral Bower;
Delight me with thy wand'ring hum,
And rouse me from my musing hour.
Oh! try no more those tedious fields,
My honied treasures all are thine;
Come, taste the sweets my Garden yields,
The bud, the blossom,—all are thine.

—SMYTH.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, JANUARY, 1876. No. 1.

Seasonable Hints.

Through the month of January the bees require no care in the cellar or house. They only ask to be in darkness and quiet. If they are on their summer stands, and have quilts or carpets over their frames, they will not suffer; though the entrances are blocked with snow. It is well, however, to see that the entrance, during a thaw, does not become stopped with water and dead bees, which a sudden cold wind may convert into ice. While you have nothing to do for the bees directly in this month, it is the time to plan for another season's work, and prepare your hives and honey-boxes. We hope the experience which some of you have had will not be repeated this winter; *viz.:* your bees die at such a rate that you will need no new hives. If you have been careful, we are sure you will not. There is a feeling of discouragement with regard to the scale of extracted honey which we fear will lead many to re-model their hives, and try next season to secure box honey only. We say "fear," because we are sure that no such change is necessary for those who wish to secure the greatest amount of profit from their bees. We know that the extractor *must* be used by western bee-keepers, in order to keep their colonies strong in numbers from May to November. We have seen, during the past year, many colonies that did well in June, but afterward stored nothing in boxes; and though the hives were full below, they had few bees, and had given their owner no profit. If those colonies had been "robbed" by the extractor of all the honey they could spare early in the season, the queen would have used the empty room; more bees would have been raised, and surplus boxes might have been filled, besides the profit from the extracted honey. The *sale* of extracted honey is another question (we can tell you how to sell it in another article). What we claim is, that it is better to take the honey from the bees, even if it had no cash value.

As to hives—those who do not care to increase their number of colonies, will find it best to have large hives containing from fifteen to twenty frames, side by side. Hives like these, well filled with bees, and with well arranged boxes and frames for honey, will give large amounts of honey in nearly every season. The comb foundations are sure to be a great help, not only in the main hive, but in the surplus boxes. Every bee-keeper can afford to have them in his boxes, and also in his main hives to secure the combs straight, as well as to save the bees time and labor.

We hope the sale of these will be large enough to reduce the price somewhat, but even at the present price, no one not well supplied with empty comb, can afford to do without them. In surplus boxes and frames for securing box-honey, they will insure the combs to be built straight, and give the bees just the inducement to work in them, which is necessary. E. S. T.

☞ All women who keep bees and would like to make contributions of honey, hives, bees, etc., to the display of "Woman's Work" in the ladies' building for exhibition of woman's work especially, at the Centennial Exhibition, are invited to write for particulars to ELLEN S. TUPPER, Des Moines, Iowa.

☞ There may be a few whose term of subscription closed with the year 1875, who do not wish to take the AMERICAN BEE JOURNAL. All such should notify us at once, as we send all Journals till we receive a notice to discontinue them.

PUBLISHER.

OUR NEW YEAR'S PRESENT.—We have now sent out our promised Chromos to all who have sent to this office TWO DOLLARS in advance for THE AMERICAN BEE JOURNAL from January to December, 1876. We did not promise it to any others; a few club subscribers, who had not read our offer carefully, expected it, till we wrote them calling their attention to it again. We must adhere to the *rule*, or some may be dissatisfied.

Now New Years' Day has passed, and the Chromos are all gone. We trust that these beautiful gems may awaken, in hundreds of hearts, "MEMORIES OF CHILDHOOD" that will be abiding and pleasureable; buoying up many sinking spirits to fight anew the battle of life, that at last victory may rest on their brows, as they enter the portals of glory.

To all its readers, THE AMERICAN BEE JOURNAL sends its greeting—wishing them a prosperous and HAPPY NEW YEAR.

☞ We have received many letters of congratulation since our last issue, which, of course, we could neither find time to answer privately nor space to print in THE AMERICAN BEE JOURNAL. Our friends may rest assured that we fully appreciate these words of commendation and encouragement, and shall do all we can to keep the old and reliable AMERICAN BEE JOURNAL up to its present and past standard of excellence and reputation.

☞ In *Gleanings* for December, Novice claims that we should guarantee all our advertisers. It is not only impracticable but impossible for us to know enough concerning the business capacity and integrity of our many advertisers to make such guarantee. We suppose bee-keepers have at least as much sagacity and intelligence as any other class, and would not thank us for interfering in such matters. We do not aspire to be a censor of the Press—nor a dictator to men of intelligence. *Caveat emptor.*

☞ Particular attention is directed to the new advertisement of Dr. J. P. H. Brown, of Augusta, Ga., importer of Italian Queens, which may be found on another page.

☞ During the coming year we hope to make THE AMERICAN BEE JOURNAL more varied and interesting than ever. We expect to add some new features in the course of a few months, that now are but partly developed. We trust that all interested in the welfare of THE JOURNAL will write fresh from their own experience and observation. The prospects of THE JOURNAL for 1876 are very encouraging, and we trust our friends will not forget their kind offices at this period of the year, among them that of renewing their subscriptions promptly, as well as getting all the new subscribers they can for the "old and reliable AMERICAN BEE JOURNAL." We shall neglect nothing to merit the approval of all our readers.

☞ The first installment of the report of the Michigan Bee-Keepers' Association appears in this issue. The Secretary furnished only a portion of it to the *Bee-Keepers' Magazine*, and our friends, King & Slocum, the publishers, favored us with advance sheets. As this number was then almost all in type, we had to omit some other matter in order to admit this into the present number. We regret that the Convention allowed itself to be drawn into a disagreeable position in reference to the Heddon and Novice matter. The former appears to be in a disagreeable mood, and sees nothing right or good outside of himself. At least, the Secretary should not have burdened the report with these matters. We shall defer further remarks till we have the copy of the entire report.

☞ The date after your name on the wrapper of every paper, is the date from which a new subscription starts, *after* the expiration of the time paid for. Thus, "Jan. 76" means that you have paid only to the end of the year 1875—and the new subscription commences with this number—January, 1876. Some do not seem to comprehend—hence this allusion.

The *Herald and Mail*, of Columbus Tenn., says that Mr. David Staples has the management of 250 colonies for R. G. Harris, 80 for C. C. Vaughn, 40 for W. J. Andrews, 100 for L. R. Cullen—making 470 altogether.

Voices from among the Hives.

WATSEKA, ILL.—Dec. 9, 1875.—"My bees went into winter quarters in good condition. They gave me 35 to 40 per cent. profit this year. That is better than yearling steers have done for me the past year."

T. N. MARQUIS.

WAVELAND, IND.—Dec. 20, 1875.—"I have about 30 hives in good condition in the cellar. They are Italians and hybrids, and I am patiently waiting, in good spirits till spring, and hope for a good season."

ISAAC SHARP.

ROSEVILLE, ILL.—Dec. 17. 1875.—"We had 48 colonies which we fed from apple blossom time till the first of August, increased to 63, making only 15 swarms from 48. They gathered quite well from buckwheat for a few days, and then wet, cold weather set in, and we got scarcely nothing from any other source. We took nearly all the honey from the bees and fed them sugar syrup for their winter supplies. In all we got about 1,500 pounds of honey, and fed during the summer and fall about 220 or 225 dollars' worth of sugar, but our bees go into winter quarters in splendid condition, never better. We had about 9 acres of buckwheat which we cut with a reaper and thrashed with a thrashing machine, which gave us 137 bushels of grain. We realized from the flour about $1.00 per bushel, which paid me this year better than other grain."

L. C. AXTELL.

BUFFALO, N. Y.—Dec. 20, 1875.—"I commenced last spring with 10 colonies, one queenless, and they have given me 21 new colonies, and 105 six-pound boxes of honey, and 120 nearly full. Some were full but not capped over, and others had two cards full, and I could have got much more honey if I had been able to use the Extractor or have taken care of them. My health has been so poor the past few years that I could not see to them, but I am satisfied with what they have done, and while I have strength to walk to my apiary, and am able to read, I must have my bees and BEE JOURNAL."

MRS. WILLIAM HARRIS.

LAFAYETTE CO., MO.—Dec. 14, 1875.—"I have about 100 stocks (made up of Italian, hybrids, and blacks). The latter have acquitted themselves equally as well, or better than the yellow and mixed bees this season. Have taken from 80 strong stocks, mostly in small glass boxes, something over 5,300 pounds comb honey, or about 67 pounds to the hive—balance of the hives average considerably less—don't bother with strained or extracted honey.

"June swarming not equal to last season; smart-weed and other plants very rich in August—swarming then nearly equal to June—use chiefly the American hive. Practice mostly natural swarming; hive the swarm in common box; place same by the side of the original hive, and inside of four days cut out queen cells and return the swarm.

"This method has its objections and difficulties, which every practiced bee-manager knows, but having orchards, farm, etc., on hand, such suits me best.

"Pack and ship in November, and sell at current rates—the price ranging from 20 to 30 cents, according to grade and season.

"This is not considered a *fine* honey producing section. The general average not being up to the present season."

ALSIKE.

COLUMBIANA CO., O.—Dec. 12, 1875.—"I have been keeping bees for over twenty years with moderate success, the principal inducement is to supply our own table with honey; hence, I have become a regular reader of THE AMERICAN BEE JOURNAL, and got Italian bees and improved hives. My bees generally do a little more than supply our table, but this season was so wet—the rain seemingly washed all the sweet out of the flowers before the bees could collect it, and the freezing weather killing the fruit bloom—that the fore part of the season was very unproductive.

"The principal sources of honey here are linn and white clover; the soil has been cultivated so long, and sheep raising is so common, that wild flowers amount to but little, except smart-weed is generally plentiful in the fall, and is much visited by the bees. Spanish-needle is plently but scarcely visited by bees."

JOB HUESTIS.

BENTON CO., MO.—Dec. 11, 1875.—"MR. NEWMAN: I did not tell you all of the good part, in my late report. I forgot to say that, in addition to 473½ gallons of extracted honey, we got 600 pounds of box honey."

J. W. DICK.

CASS CO., MO.—Dec. 14, 1875.—"There are no Italian bees in this neighborhood but mine. I have 74 stands in good condition. They stored 3000 lbs. in comb and extracted honey from August 10 till frost."

PAUL DUNKEN.

ONONDAGA CO., N. Y.—Dec. 16, 1875.—"There is no monthly visitor more welcome at my house than the AMERICAN BEE JOURNAL, As long as I am in the apiarian business it shall have my warm support."

H. ROOT.

WILLIAMSON CO., TENN.—Dec. 4, 1875.—"I made no honey this season until about 3 weeks ago. I extracted some to give the queens more room. There has been no brood for several weeks and the brood chamber is filled with honey.

"The principal honey plants here are white clover, linn, and poplar for spring,

and aster, smart-weed and golden-rod for fall.

"The AMERICAN BEE JOURNAL is my regular text book. I should be lost without it." MRS. N. G. MORRISS.

GRIDER, KY.—Nov. 26, 1875.—"The AMERICAN BEE JOURNAL has been of great help to me during the last year in giving information on bee culture, and I am much pleased with it.

"I commenced this spring with 18 Langstroth hives, and increased to 40; Italianizing only a part, and taking no honey, I could have increased to 60 colonies.

"Besides these at home, about 8 miles from here, I bought 3 old hives which I increased to 10 during the season.

"I made a hive four feet long, something like a New-Idea Hive, with 6 apartments. In each division I put a piece of comb, which I had taken from the old colonies. These were full of brood and had a few workers clinging on. I also placed another piece of surplus comb in each apartment. I put in a queen which I had taken from the stands at home, before I introduced the Italian queens in each division. The great increase astonished me, and the top of the hive having warped, there was communication with all the divisions, and I soon discovered they were killing the queens in the centre, and now there are only remaining two queens, one at each end, with a great quantity of bees in the hive."

J. G. ALLEN.

DODGE CO., WIS.—Nov. 20, 1875.—"Season wet and cold; I commenced with 11 stocks; sold 6 in May, leaving 5 good and 2 rather weak stocks, in eight-framed Langstroth hives. Increased to 24. Honey season commenced in July. I got 85 lbs from each stock. Sold all at 20@25 cents. A frost came in August, and I had to feed sugar syrup to many of the latest swarms to get them to cap the honey over. I now have 29 stocks in a cave, nearly like the one used last winter —3½ feet in the ground and 3½ above, covered with earth and straw 3 feet thick; it is 14x16 inside. Our main plants are white clover, basswood and golden rod." JOHN H. GUENTHER.

PORTLAND, OREGON.—Nov. 18, 1875.—"April 1, I had 26 swarms, 4 in movable frame hives, and the rest in common ones, some rather dilapidated. Our rainy season lasted six weeks, and then it came off very hot and dry. In a month the white clover was done for, and other pasture was scarce. The 4 swarms in frame hives increased to 7; 6 of them making 40 lbs box honey each. I transferred the others, and that put them back. They increased to 35, but no surplus. I now have 32 hives all in good condition."

D. D. BRIGGS.

RED OAK, IOWA.—Nov. 23, 1875.—"My report for 1875 is as follows: After spring sales I had on hand 33 stocks; I took 20 of them three miles from home; went to them once every 10 days and cut out the queen cells to keep them from swarming; they gave me 800 lbs. box honey and I increased them to 46; the 13 I kept at home I increased to 66, but in preparing them for winter I found some of them deficient in honey, so I broke up and united 19, which left me 47 in my home apiary.

"I now have 93 stocks in splendid condition for winter, put them into my cellar Nov. 20; the 18th was very warm for the season, they had a good fly.

"Linn blossoms produced no honey this year. My bees gathered only enough to supply their brood until after Aug. 10. Our only honey source here is from fall flowers, principally golden-rod and heart's-ease. We have had but few fruit blossoms or white clover. I would like very much to have G. M. Doolittle, Capt. Heathering, R. M. Roop and others who got from 1,000 to 5,000 lbs. box honey this year, to give in the JOURNAL their plan of getting the bees from the boxes filled with honey. I would about as soon extract 1,000 lbs. as to get the bees from the 1,000 lbs. of box honey. My experience is that fully one-twelfth of the bees in boxes of honey that is capped and ready to come off, are young bees that have never left the hive. It is a job to get them out; they will not leave the boxes, but where a lot of boxes are piled together, fully one-third of the bees will cluster together and stay there." E. D. GODFREY.

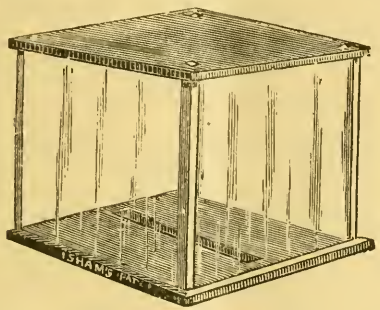
VIRDEN, ILL.—Sept. 8, 1875.—"In the September number Mr. I. Applewaite speaks of a plan of hiving bees that I have practiced more extensively this summer than he seems to have done; inasmuch as I have frequently hived them in the same manner without the queen. For instance, it is no uncommon occurrence for a swarm to issue and return without alighting, thus causing considerable trouble, especially if you chance to be in the field, half a mile from the house. Now, in order to be sure of a swarm when they come out, I have my hive all ready, and if I find they are coming back, I move the old hive and substitute the new one, then give them a frame of comb from the old hive with a queen cell on it, meantime if you find the old queen on the grass, you can give her to either hive you choose. I find that my bees will store honey much faster in small frames, placed directly over the lower frames with nothing between them, or if in boxes, those that have slat bottoms instead of augur holes. I find it very convenient to keep a piece of carpet under the honey board, as I can examine a hive without a chisel to pry off honey board, and irritatingthe bees." S. W. LOUD.

Correspondence.

For the American Bee Journal.

Glass Honey-Boxes.

As the glass honey-boxes which I have been using in my apiary for the past few seasons have given very satisfactory results in obtaining and marketing surplus honey, I have confidence to comply with your request "To give a description of them in the AMERICAN BEE JOURNAL," trusting that if it be in no other way of any benefit, it may open the field for discussing the merits of the various styles of receptacles used by successful producers in different parts of the country.



ISHAM'S HONEY-BOX.

The tops and bottoms are of any kind of wood desired, soft being generally preferred, as it is easier worked, but hard woods admit of polishing and making as ornamental as may be wished, especially when a variety is wanted for exhibition.

Dress to proper thickness, say three-sixteenths of an inch, varying with size of box required, and cut entrance slots in bottom piece.

The metal corner is a seven-sixteenths of an inch strip of tin, bent angular and pronged at each end, by cutting away one side, making length from shoulder to shoulder the same as length of glass for height of box with prong long enough to point—pass through woods—bend over and make a square clinch, as shown on top of box in cut.

In each corner of wood, at proper distance from edge, make a narrow mortice for prong of tin corner to pass through, and inside from mortice, average thickness of glass distance, make an awl-hole, in which to drive a three-eighths of an inch zinc shoe nail, to hold the glass from falling inwards.

Having cut the glass to proper size, the box is now ready for putting together.

Through each mortice in the bottom wood pass the prong of tin corner, bending projection down flat on the outside surface; then lay on a bench or table, with sides fronting you, and it is in position for receiving the glass.

First, put in the sides, resting them in respective corners of tins which stand flaring; then with right hand put left end glass in place, clasping with thumb and finger of left hand, outside each corner drawing sides to proper position and holding end glass to place; now slip in other end glass, for the present not giving it much attention. You are now ready for putting on top piece, (to which has been fastened starting comb); by taking it in your right hand and slipping one end on prongs just far enough to hold them together, then reversing position of hands change operations to the other end of box, drawing the corners to place, inserting prongs in mortice the same as at the other end of box, and press top squarely down till the ends of nails are even with tops of glass; then take the box in hand and with narrow stick or old flat file inserted in slot, crowd out end glass flush to place, then lay the box on bench, press on light, hammer top down tight to glass, when you have but to clinch or bend down the ends of tins, and the box is completed.

At first trial it may go awkward, and some difficulty be experienced in getting them together, but with practice making honey-boxes will become pleasant pastime for long winter evenings, and you will have boxes ready for use when wanted, however hurrying may be the season or suddenly come the demand.

It is not necessary to have the glass very tight, for when the bees seal the cracks it makes them firm and solid.

For my own use I principally make three sizes, as follows:

For narrow single comb box woods, 6⅜x2½,
Glass, 5x6, 5x2.
" two " " " 6⅜x4½,
Glass, 5x6, 5x4.
" Three " " " 6x6,
Glass, 5x5 7-12, 5x5½.

At present I am using mostly of the small size, as they sell best in the New York market, also in the cities of Rochester and Buffalo; and I am satisfied I can get as much honey in them as in boxes of larger capacity.

The two-comb ones are also a very desirable and salable size, when filled averaging about 5 lb weight. The 6x6 are the regular Langstroth sized box, holding between 5 and 6 lbs when well filled. By using 5x6 glass on the four sides you have a box 6½x6½, holding about 7½ lbs gross, which size some may prefer, but with us is too large to meet with ready sale in our markets.

In the bottom of the small box, cut lengthwise two narrow slots, the outsides of which come close to the inside edges of glass, giving the bees a chance to build comb close to the bottom, which is very desirable, as they can be handled and shipped right side up, with less than ordinary liability to breakage.

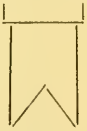
The side glass also through this slot can

be cleaned on inside, which is quite an advantage, especially when wanted for exhibiting nice honey. For two-comb boxes I use three narrow slots for entrances.

These boxes can be used on most any size of movable-comb hive, by removing honey board and laying strips ¼ inch thick across the frames, for the boxes to rest on, or upon common box hives, by boring a number of holes through the top and laying strips around outside edge of space, for what boxes it will hold—dividing at proper distance with a cross strip—put on all the boxes it will hold, covering with a tight outsipe cap, and you can get them just as nicely filled as though they were on hives of more pretentious style.

A standard Langstroth hive holds, by laying two strips across the frames, 18 of these small boxes, which filled weigh 40 gross per story, and you have 36 boxes weighing 80, and so on through the honey season, accommodating the bees with plenty of box-room, no matter how great may be the rush of honey, provided you always have plenty of empty boxes on hand; this is really one of the secrets in obtaining large yields of box honey.

Now to make steel for cutting mortices: Have your blacksmith hammer from an old file a piece as near to proper shape as possible, the chisel part being about an inch long from shank, and full size of mortice; file square and true, and with a three-cornered file cut a notch in bottom broadside with steel, which makes each narrow edge chisel pointed; being careful to have cutting points flush in width and breadth, so as not to split wood when the chisel is pushed through to clean out the mortice.



Have a thin board pattern, with mortices and nail holes in proper place, so fastened as to admit of slipping under it box-wood to be fitted, which rests upon a hard wood bottom, in which are slots to correspond with those in upper piece. By driving your chisel through the wood from slots in pattern, and piercing with a brad-awl holes for nails, you have the wood ready for using. Get your pattern right and all your wood will be prepared alike, and there will not be any difficulty in putting up boxes provided your glasses are cut to mark, which can be easily done by laying them in a box for that purpose.

There are some other details which I probably had better not occupy space in describing here, as it is somewhat difficult to give a plain description without cuts.

If any of your readers would like to see a box, I will forward them by mail a set of woods and tins for amount to cover postage and pay for packing.

These boxes are covered by letters patent, dated Jan. 30, 1872, but I intend to be liberal in disposing of rights and territory, making it more of an inducement for parties wishing to engage in their manufacture at a small outlay, to secure themselves from cheap, ruinous competition.

A sample box and instructions pertaining to their manufacture are worth more to any one wishing to make and use them, than the small amount I charge for the privilege of so doing. C. R. Isham.

Peoria, Wyoming Co., N. Y.

For the American Bee Journal.

McFatridge's Apiary.

While stopping with Mr. P. W. McFatridge, near Carthage, Rush co., Ind., I became very much interested in his improved method of taking care of bees. His care of bees, the construction of his new bee house, his improved Langstroth hives; and, in fact, everything connected with his apiary is so simple and so conveniently arranged that I thought a few lines might be written for the improvement of others who are less experienced. First, then, preparing his bees for winter, —Five portable platform cars are loaded with bees—20 hives on each—in the commencement of cold nights, and are run into the house or out again in ten minutes, thus giving the bees the advantage of a few hours of warm sun even in the winter season. For description of bee house, cars, &c., see No. 5, Vol. 11. page 111 of this journal. I have examined many hives, but I believe the Langstroth hive, with Mr. McF.'s improvements on it, is far superior to all others in use. In fact everything connected with his management of bees is reduced to a perfect system. In Sept., 1873, Mr. McFatridge purchased of the Rev. L. L. Langstroth his entire apiary, consisting of 54 colonies, all Italian bees. Adding these to his own, consisting of 68 colonies, gave him one of the finest apiaries in the State. Mr. McFatridge has been more or less engaged in keeping bees for forty years, but not until 1867 did he make it his exclusive business. Like all other apiarists, his success has been varied as the following will show:

In 1867 he had 22 colonies, 600 lbs. honey, av. 27.

In 1868,	28 colonies,	1,827 lbs.,	av.	65 lbs.
" 1869,	30 "	2,100 "	"	70 "
" 1870,	80 "	3,600 "	"	45 "
" 1871,	80 "	4,744 "	"	59 "
" 1872,	14 "	Failure.		
" 1873,	44 "	4,183 "	"	95 "
" 1874,	60 "	8,629 "	"	143 "
" 1875,	80 "	2,400 "	"	30 "

Average for eight years, 66 1-8 lbs.

Total loss of colonies for same time, 310.

Purchased in same time 104 colonies at a cost of $584.00.

Total surplus honey in same time, 29,763 lbs., sold at $5,907.00.

From the above it will be seen that the keeping of bees under favorable circumstances can be made a success, while on the other hand it may be attended with great loss. The question then to be solved is: can it be made a success? I answer, that while a warm, dry season is indispensible for increasing bees and making honey, yet the great problem to be solved is: how shall we keep our bees through the winter? When Mr. McFatridge gets the ventilation and artificial heat to suit him, with his new process, I think his success in wintering bees will be assured. A visit to his apiary will repay any one who desires to get some new ideas in the management of bees.

A. H. PROCTOR.

Rushville, Ind., Nov. 2d, 1875.

For the American Bee Journal.

Milk Weed as a Honey Plant.

Considerable has been written in reference to the destruction of bees, by the plant called milk weed, and some aver that it destroys every bee that works upon it; this is contrary to my observation. When this plant is in blossom, I have noticed bees gathering honey from it in considerable quantities. Although some bees are caught while at work upon the blossoms, and a goodly number get their feet clogged with the oblong particles, interfering with their locomotion in a wonderful degree. I have seen on the bottom boards of hives, a teaspoonful of those particles, that adhere to their feet, which undoubtedly were removed by the bees after returning home in the condition mentioned above. That bees are destroyed by this plant, is a matter beyond dispute, but the honey they gather from it will more than balance the loss of a few bees. In my estimation it is merely a drop in the bucket, when we bring the moth or foul brood into consideration.

Ono, Wis. M. S. SNOW.

For the American Bee Journal.

Give us the Points.

MR. NEWMAN: Your questions to bee-keepers have elicited some reports of wonderful success, and some reports not so wonderful. It reminds me of our California luck in raising corn a few years ago here, where we never look for a drop of rain after planting. Sometimes it would come corn, sometimes stalks, and sometimes we would get neither. Sometimes our potatoes would yield tubers, and sometimes nothing but tops. We were lucky or unlucky, and that was all we knew about it. The problem had to be solved, and many cornfields were visited, and the peculiar points of cultivation in all grades of success were carefully noted and comparisons made. The secret was solved, and now corn and potatoes are as successfully produced here as in Iowa.

In the bee business the reports indicate that in many cases it is almost as much a matter of luck as a matter of skill, even with those who have had the most experience in the management of the apiary.

By publishing carefully prepared reports from a hundred successful persons, and the points to which they attribute their success, great progress may be made each year, and the points essential to success, as shown by the reports, can be followed by those who are less successful.

I have carefully calculated the per cent. gained on the amount invested by a number of your correspondents in the following manner: To have the estimate on a uniform basis I count the empty hives as worth a dollar, colonies worth $10, and honey 20 cents per pound. To the value of the original stock I add the cost of the hives used for the new colonies, and also the value of the honey, if any, fed to the bees in the spring. Then I credit the account with the value of the swarms on hand in the fall, and the honey produced, thus:

N. CAMERON'S Apiary.	DR.	CR.
To 13 swarms, $10 each	$130	
" " " feed, $1 each,	13	
" 47 new hives, $1 each	47	
Total debit	$190	
By 60 swarms		$ 600
" 2,000 lbs honey, 20 cts		400
Total		$1,000
Net gain		810
Per cent. gained on capital		426

Mr. Cameron had $190 invested and cleared $810; amounting to a net gain of 426 per cent. on the entire capital invested.

The following list shows the per cent. gained by others:

	Per cent.
C. C. Crawford, Kane Co., Ill.	596.
H. Nesbit, Harrison " Ky.,	559.
Mrs. M. A. Bills, Hillsdale Co., Mich.	581.
W. Arms, M. D., Perry Co., Ill.	415.
J. S. Bryant, Harrison " Mo.	339.
Nrs. Hattie Smith, Bureau " Ill.	337.5
Mrs. Mary Stibbs, Wayne " Ohio	329.
J. Ingmundson, Mower " Minn.	310.
J. C. Armstrong, Marshall " Iowa	300.
John Cardinal, Brown " Wis.	295.
H. F. Walton, Grant " Wis.	292.
E. H. Rogers, Dodge " Neb.	291.
J. F. Montgomery, Lincoln Co., Tenn.	285.
P. H. Bohart, Platt Co., Mo.	281.
C. B. Billinghurst, Dodge Co., Wis.	261.
A. H. Hart, Outagamie " Wis.	241.
J. I. Parent, Saratoga " N. Y.	238.
E. C. L. Larch, M. D., Boone Co., Mo.	205.
Barnum & Peyton, Davidson " Tenn.	152.
G. H. Sprague, Steuben Co., N. Y.	134.
E. Brown, Norfolk Co., Ont.	130.
J. E. Love, Marshall " Tenn.	126.

Here are the names of 23 bee-keepers who have been remarkably successful. They may be called lucky by some, but few will doubt that they exercised great skill in the management of their business. Now, if each one of these would write a careful account of the *points* tried so successfully, which enabled them to accomplish so handsome a result, I have no doubt their statements would be studied with greater care for some time to come than any other writings on the subject of bee culture. O. L. ABBOTT.

Santa Barbara, Cal., Nov. 8, 1875.

For the American Bee Journal.

Amateur.

There is a question in the August number of the Journal, asked by Mr. Rasmussen of this county which I think was answered incorrectly. The question was as to the cause of brood with blue eyes, fully grown but left uncapped. My opinion is, such brood is left uncapped on account of a small moth worm, which is near the bottom of the cells and where the bees cannot reach them. The cells are left open hoping that the worm may come out.

If any one will take a sheet of comb thus affected, and rap on the cells, or in some way so disturb it as to frighten the worms, you will see them crawl out of the cells, or from one cell to another. The cells which are lengthened out and capped only are not drones, but the brood which has been troubled as above described and the worms removed, the brood being older, is not capped in the same way as young larvæ.

The larva or crysalis, described with blue eyes, is *not* dead, but it is frequently the case that the worm has tied it in the cell so tight that it cannot extricate itself but has to be cut out by the bees.

I have received many letters asking additional questions about this locality for bees, and will answer a few of them through the columns of the JOURNAL.

Our mountain bee-ranches are the very best localities for health. We are generally at an altitude of about 1500 ft.—above the dampness of the sea coast, and almost entirely free from frost. Most of the ranches are from 12 to 25 miles from R. R. or market of any kind. We generally sell our honey to eastern dealers. Either direct or to city men who sell to eastern dealers. The home market is very small, compared to the amount of honey produced. The average net price for extracted or strained honey is about 8 cents per lb., and for comb about 14 cents. A large majority of the honey is strained or extracted. There are not many bees for sale in Los Angeles Co. The average price per hive, in box hives, is $4.00, and in movable comb hives about $8.00. I don't think it would pay any man to bring bees out here with him from the east, as the cost in shipping would be too great. It will not be more than two years until this country will have all the bees that it needs. There are some good localities not yet taken up, but they are more inconvenient to market, say 25 miles away and a pretty rough road. There are not many localities in this county that are suitable for bees, that are more than a mile or two away from neighbors, and generally there are several within three miles, some stock ranches and others bees. There are no poisonous reptiles here except the rattlesnake, and but *very few* of them. Some Tarantulas, Centipedes and Scorpions, but they are not to be dreaded, as they are nocturnal in their habits and their bite is not fatal. Just such clothing as would be considered "spring clothing" in the East, is needed the year round here. The best bed is a woolen mattress, with feather pillows, and a pair of *good* blankets, and one quilt. The route is to San Francisco, thence by steamer to San Pedro, thence by rail to Los Angeles. The water here in the mountains is very good. As to the probability of overstocking the market with honey from California, the idea is preposterous. The honey district is a very small one comparatively speaking, and will never injure the market.

Orange, Cal. AMATEUR.

For the American Bee Journal.

The Apiary House Question.

I notice in November number of the BEE JOURNAL an article headed "House Apiary," bearing the signature of M. J. Stibbs, noticing a house apiary built by A. I. Root, of Medina County, who is also editor of "Gleanings," etc. The article states "that although he has not yet given the circumstances that led him to build it, I am quite sure he intends to do so, in justice to Mr. Coe, from whom he procured all the necessary instruction for building it." It is true that Mr. Root visited the house apiary of Mr. Coe, and became familiar with the plans upon which Mr. Coe constructed it, yet Mr. Root's house apiary is by no means fashioned upon the precise plan of Mr. Coe's. They are, in fact, quite different. I have personally inspected both of the houses, and find them to be constructed upon quite different plans. While that of Mr. Coe's is a square building, Mr. Root's is an octagon. Other differences might be mentioned, did time and space permit, but enough has been said to show that Mr. Root has not fashioned his house after the model of Mr. Coe. Mr. Root will, no doubt, in time, give a correct description of his house apiary.

G. W. DEAN.

River Styx, O., Nov. 9, 1875.

For the American Bee Journal.

Improvements.

FRAMES.—Much has been said about frames; they should be made of ⅞ lumber, top and end bars about ½ an inch thick, bottom ¼ thick.

GUIDES.—Beeswax guides properly put on are the best, (except comb guides.) "Novice" will say, don't use such clumsy things; but the fact is the "metal corners" are nice, but in practice they are not so nice. "Novice" harps much about killing bees, and cutting them in two, with common frames, and frames sinking into our metal support. I would say to the inexperienced that there is but little danger of cutting bees in two. Of course an occasional bee will be killed, but you kill more bees at the end of your frames, in the hive. I use a strip of tin 1¼ inches wides, with one edge folded over to present a straight, smooth edge, so that the frames are as easily handled as those with "metal corners," besides the advantage that we can shake the bees off with some degree of satisfaction; while with the "corners" you must brush off, perhaps one-fourth of the bees. If "Novice" can shake off very nearly all the bees from his combs, "just as easy as can be" ("*Gleanings*," page 142), then his bees are different from mine.

QUILTS.—Some use quilts; others think they are too bothersome and expensive. I find that it don't pay to use either, alone. I have used a quilt with a board on it, the past season, and like it a great deal better than either, alone. So you see my quilts are easily *made* to fit. My bees do not build an inch of comb under the quilt as they used to do. In October I took off the boards, opened the hives, took out all unsealed stores and cut winter passages through all the combs, took out two combs, leaving eight spread with about 25 lbs of honey.

I think quite favorably of the house apiary, but you don't find me making any more complicated fixtures, such as division boards between hives, room for one or two hundred pounds comb-honey, etc. I think our hives should be made especially adapted to the use of the extractor, and then if I can engage comb-honey at 25 cents gross, I may run a part of my force to comb-honey. All the experience I have had with the apiary house, was in carrying my bees into my bee-house, this fall, to take out the unsealed honey, and see that they had not less than 20, nor more than 30 lbs of sealed stores. Sometimes I find that they are rather bothersome, crawling over the edge of the hive. To obviate that trouble I shall make my in-door hives with rabbets three inches deep. I shall use 20 combs 13⅜x11 inches.

I find there is but little danger of stinging in the house. I was stung but twice in handling 70 stocks, and then they flew into my face when I raised the quilt before they knew they were in prison. The house must be kept light or there is danger. I never found it necessary to extract after night. I thought I would try it, but soon got enough of it. There are a great many drones in most of my hives now, but they will soon be nearly all killed.

On page 140 of *Gleanings*, "Novice" says there are about 10 sheets of comb foundations 6x16, in a pound. I bought one pound, 8 sheets 6x13. I think they are just what we want, provided they are not too costly. If Mr. Long could make the foundations 10 inches wide and sell them for 75 cents, or less, by taking say $50 worth or more, it would be a good investment.

I had 50 stocks one year ago in rather poor shape, as many of them had more or less unsealed stores. I lost in March and April, 25, so I had but 25 weak stocks left. I increased to 70—50 good stocks and 20 rather weak. The weather was so very unfavorable in September that I could not build them up as strong as I expected to. I did not extract any till July 25, and since that I did not get a very good yield of honey, yet I averaged 150 lbs extracted honey, and have 300 extra combs built. If I should have 50 strong stocks next April and a little better season, I think I could average 300 lbs.

"Novice" does not tell us why honey flies over the top of the can. In revolving the comb frame the air flies upward in a circle, and if the honey is thick, as it should be, at a temperature of 75 or 80°, the honey will be thrown upward in fine particles, or threads, by the rising current of air. R. S. BECKTELL.

New Buffalo, Mich., Nov. 8, 1875.

For the American Bee Journal.

Housing Bees.

In our northern climate, the protection of bees, through the winter, by some means or other, is a matter of the greatest importanee. Bees, like any other stock, if well wintered, are ready in spring for a good summer's labor, and if poorly wintered will take the best part of the season to gain sufficient strength to even sustain themselves. The United States comprise such a variety of climates, that the same means would not answer in all sections. Having wintered my bees, the last two winters, in what Mr. Langstroth terms a clamp, I feel confident that it is the safest and best plan to winter them here in the far north, at least, where the soil remains frozen from November until April. I placed 40 stocks in a clamp the last winter, (which was a severe one for bees) and they remained in

it five months, and all came out in good condition. The one I constructed was modified somewhat from the one Mr. Langstroth described in his work, merely for convenience. Having selected the highest ground, near the bee yard, for the clamp, I measured off 16x16 feet, dug out the soil one foot deep, throwing it out at each side for covering; I then set four posts in the center on a square of 8 feet and 6 feet high, pining pieces on top of the posts to sustain the inward pressure, after being covered. I covered the top with strong poles, placing them 8 or 10 inches apart, and treating the sides the same, placing the bottom of the side poles on the top of the ground, which would give them an inclination of about 45 degrees. On one side put a door, the jamb being a foot wide, and the same position, or slant, as the sides. It is then ready to cover with straw (hay is better), cover all with earth 1 foot thick, and you have it ready for the bees. Make a cover for the door and place it on the jamb on the outside. Cut a hole in one corner of the door 3x3 inches for ventilation; or ventilating tubes would be better. It is well to let it remain a few days, with the cover off, to dry out before putting in the bees. When they are put in have the hives as dry as possible; give them upward ventilation, and disturb them afterwards as little as possible.

M. S. SNOW.

Ono, Wis., Dec. 1, 1875.

For the American Bee Journal.

Effects of the Extractor on Brood.

The question of J. W. Dunn, page 267, December number of the JOURNAL, is often asked, and is a very important one. The various opinions on the subject seem to show a lack of careful investigation. This is not as it should be; and the question ought to be settled beyond all peradventure before the next season for extracting has passed.

The results of my careful attention to this subject has taught me:

1st. Eggs can not be thrown out by the use of the extractor.

2nd. Young larvæ are not injured by the extractor unless thrown out.

3rd. Ninety per cent. of the larvæ that are thrown out by my extractor are drone larvæ.

The drone larvæ owing to the larger size of the cells, and their greater weight when several days old, are more easily displaced than worker larvæ.

As very young larvæ and eggs are often removed from the cells, when put into a strange colony, it is necessary to notice whether combs are put into their proper hive or not. I think this the likelist source of error in determining this question.

A daily examination of the combs of queenless colonies that had been extracted failed to discover, in several instances, any other change in the contained brood and eggs, than was due to growth and development.

Some apiarists say: always run the bottom of comb forward in the extractor, to make the honey come out easier. Now I can see no difference in this respect; and theoretically there is none, for the centrifugal force acts in a *straight line*, outward from the center.

A careless hand will sometimes break combs by starting or stopping too suddenly, especially if the gearing is such as to require a rapid motion of the hand, thus giving more power over the revolving frames.

The most common objection that I have observed to the extractors offered for sale is that the combs are too near the center of the machine. Some that are on the market have the comb-racks so close to the center, that the tendency is to split the combs down the middle when in rapid motion.

W. C. P.

Maysville, Ky.

For the American Bee Journal.

Chips from Sweet Home.

SEPT. 14. — Our apiary numbers 108 hives, of which 50 are storing in boxes, slinging from 15, 41 comb-building, and two have queens not laying.

Since we have Italianized our apiary we are troubled but little by the moth; ants and spiders are worse this year.

Some time since some writer said that the Italians built larger cells than the black bees. A few days since we got a swarm of black bees, and had an opportunity to verify it; their worker comb measured 100 cells in two inches square (or four square inches), and the Italians only 82 in two inches square. Is this difference in size an improvement or not? Are Italians smaller by being raised in cells by black bees?

We use all good drone comb for guides in surplus boxes. To secure this we are cutting out drone comb, and have our comb-builders fill in with worker comb; for this purpose we employ nuclei and weak swarms, giving them from 2 to 3 full combs of brood and one or two empty frames or combs, from which we have cut drone comb; these we keep *strong* by crowding with a division-board, and examine once every two or three days, according to the tendency to build drone comb, which is regulated by the amount of honey being gathered, building worker if scarce, and *vice versa*.

How would I secure the greatest amount of box honey? I would have large hives; if Langstroth frame, 9x17 inches outside measurement; I would have 13 frames.

Commence in the spring with as many combs as the bees can cover, when honey and pollen is not to be gathered, *stimulate* by feeding rye-flour and sweetened water; insert between each two combs of brood an empty comb; in this you will need to be guided by the prolificness of the queen, amount of bees and the *weather*, using a division-board, until you have filled the hive with 13 frames of brood. Have the hives made with a front or entrance at both ends; these you will regulate, keeping them more or less open according to weather and strength of colony. If you use the Langstroth blocks that have slots, put the slotted side up, as they harbor worms.

Be careful not to put any *drone comb* in the hive, for they will raise a lot of useless consumers and *incite* them to swarm. *Did you ever know a hive to swarm that had no drone-comb?* Have *all worker-comb* full of brood, and the hive crowded with bees, and they will only leave your sweetened water for honey abroad. Put on 12 6-lb. boxes, or better, use a section-box of frames similar to the one used by Clark and Harbison, of California. I make them as follows: Upright side pieces, 1⅞ inches long, 1¾ inches wide, and ⅜ inch thick; top piece, 6¼x1¾x3-16; this piece is nailed on top of side pieces; bottom piece is ½ inch square and 5⅛ inches long; this is nailed between the side pieces, with one corner downward; for nailing use lath nails. These frames are held together by a thin strip of wood laid in a ½-inch mortice in the center of the outsides of side pieces, and tacked with cigar tacks in the end sections. A 13-frame Langstroth hive will hold four of these section boxes, of 11 frames each, with a storage capacity of 112 lbs, instead of 72 lbs, in boxes. We put 6x7 glass on each end of the section box with glue, these frames will hold about 2½ lbs, and may be retailed separately. These frames give us the advantage of large boxes (bees will store more in a large box than in small ones), more surplus room, and when partially filled they may be emptied with the slinger and the honey sold, instead of laying by from 1 to 4 lbs per box till next season. The frames will need a thin strip of comb as a guide, which may be fastened to the top piece with glue or beeswax and resin, of equal parts.

About once a month it is well to open hives that are run for box honey, and empty any combs that are filled and return, putting them in the center and those filled with brood to the outside.

The season of 1875 has been very cool with us, as will be seen by the following notes kept: Mar. 30, fahrenheit, 80°; April 16 and 17, 20°; remaining cool till May 7, 84°; then about ten days warm, then cool till June 20, then cool nights, being about 55° in morning, and up to 80° at noon. Aug. 22, 5 A. M., 43°: Aug. 23, 5 A. M., 40°; at 1 P. M. of same day, 76°. Aug. 25, 5 A. M., 70°; 1 P. M., 90°; continuing warm till Sept. 10, 5 A. M., 55°; then rained every day till Sept. 18, when we had a light frost.

I set out, March 27, 54 hives out of 100 put in cellar. April 6th, gathered pollen; May 7, first drone seen; bass-wood, apple, wild and tame cherry, plumb; white clover, failed to produce any honey; raspberries, mustard, produced some. July 8, bees commenced and gathered considerable from ebow brush; then, Aug. 10, they commenced on buckwheat, of which we had 25 acres within 1½ miles; they left buckwheat, which yielded well, for the Mississippi bottom fall flowers, gathering considerable till frost, when a heavy rain cut the flow of honey short.

On account of cold weather, bees worked but little in boxes, storing it below, crowding the brood to a small space. Ten hives which I run for slung honey kept crowded with bees and brood, and did not swarm, but those storing in boxes had the swarming mania. From Aug. 25 till Sept 10, I increased to 108 hives, but 3 being queenless I united them with others, leaving 105 to try the winter with.

We took 1,000 lbs box honey and 2,000 lbs slung honey. D. D. PALMER.

Eliza, Mercer Co., Ill., Oct. 2, 1875.

For the American Bee Journal.

What They Did, and How They Did It.

DEAR JOURNAL:—The summer is ended, the honey harvest is past for the year 1875, and it is now the duty of the bee-keeper to repay the little busy bees for their last season's work, by preparing them carefully to exist during the long and cold winter that we are destined to have in this latitude. It is also the farther duty of every bee-keeper to carefully look over his last season's work and see what he has accomplished—comparing his losses with his success, also carefully reading the AMERICAN BEE JOURNAL and then trying to make next season more of a success than the last. That, I consider the way to make bee-keeping a success. I commenced last spring with 18 stocks, 3 of which were queenless; the spring was unfavorable, but I brought them all through; owing to storms I got only about 100 lbs of linden honey; we have no white clover here, from the middle to the last of July. My queens seemed determined to lay in the upper stories; about the middle of August they commenced to store honey and also to swarm; although I extracted once a week, still they would swarm.

I piled up some of my Quinby hives to three stories; it gave me a good chance to experiment with hiving swarms back into the parent stock, hiving swarms with

weak colonies, etc. I have taken about 2,000 lbs of honey, and have 28 stocks for winter. This makes the third year that I have tried to get box honey; I got about 125 lbs and lost more than I made in the operation, in my opinion; for whenever I tried to confine my bees down to work in boxes, they would invariably swarm when the boxes were about half full, and that would spoil that stock for box honey.

I had hives with 12 frames, the frames 12x16, and a 30 lb box on top; still they swarmed; they kept swarming up, until about the 12th of Sept.

If my bees had taken such a swarming fever in June, I do not know where my increase of stocks would have stopped, as it was, I did all I knew how to prevent it.

ED WELLINGTON.

Riverton, Iowa, Oct. 11, 1875.

For the American Bee Journal.

My Success in 1875.

I have been taking the AMERICAN BEE JOURNAL for 7 years, and I have Langstroth, Quinby, Mitchell, King, and have read nearly all the bee literature in the country, been in company and conversed with some of the best apiarist in our country. I thought I was pretty scientific on that subject, but other business had always prevented any application of my science to the business.

However this season I thought I would apply what knowledge I had, and see if I could perform the various manipulations so essential in bee-keeping, and without the successful performance of which no man could claim to be a successful and scientific apiarist, and possibly I might attain some of those marvellous results which I had often read of, but had never seen.

I got my bees Italianized last fall, and succeeded partially; I commenced last spring with 13 hives: 8 full bloods, 2 hybrids, 1 black and 2 queenless stocks. First job in order was to supply my queenless stocks with queens, which I did by giving them full frames of brood in all stages from my best Italian stocks. I succeeded finely, and here it would be well enough to state that I use the Langstroth hive, and I never have lost a colony of bees while wintering it in a Langstroth hive on its summer stand in Mo.

About this time I thought I had performed all I had ever read of, except raising queens; being a carpenter and joiner, it was no trouble for me to make hives, so I made nuclei hives and commenced rearing queens. I began with six and reared every one. So I now conclude I am something of a bee-keeper.

Our locality like all others in the Western States suffered terribly by an uncommonly wet spring, and delayed all bee keeping operations. In fact, they nearly starved to death, were weaker in bees on the first of July than they were on the first of March, and totally destitute of stores, making their daily food from day to day.

About the 10th of July fair weather and flowers came, and bees began to gain rapidly. In the fore part of the season I had increased seven stocks, part natural, part artificial. On the sixth day of August swarming commenced again in earnest, and from that time till the 18th day of September swarming was an almost daily occurrence. On the morning of the 18th a severe frost visited this county and the honey season closed, (on the 21st a swarm came off, the latest I ever knew, I put it in a nail keg; it remained a few days, and then decamped, it could make no honey.) My 13 stocks increased to 43. Most of them in good condition for wintering, but such a great increase was detrimental to surplus honey. I got none.

When frost came, on the 18th, my bees were never doing better, and if frost had only held off, as it usually does here, and as it did in the western part of the state till October 18th, an immense yield of honey would have resulted. I never saw such a profusion of flowers in my life, hundreds of acres of aster, golden-rod, heart's-ease, smart weed, and many other kinds nameless to me. The fields in many places looked like seas of gold.

The three best honey plants are aster, golden rod and buckwheat. We have all kinds of fruit blossoms, white clover, basswood, and I believe every plant and flower and shrub common to the western states in this latitude 39 deg. I call this a good bee country. JOHN BARFOOT.

Montgomery Co., Mo., Nov. 20, 1875.

For the American Bee Journal.

How it Was Accomplished.

DEAR EDITOR.—I see in the October number of the AMERICAN BEE JOURNAL a request by a correspondent, that those bee men making the largest report of honey, etc., for the season, would give their method of management. It would seem that I am among those referred to. One word in correction; it might be inferred from reading my report that I got my comb honey from the 38 swarms, run with the extractor, but I did not. It was all comb honey, that I got from the balance of my apiary. My mode of operating was with the *High Pressure Hive, mentioned in the June number.* Breed-up in the spring in long low brood chambers to the full capacity of the queen, until I have a stock large enough to divide. I then operate with the extractor, in the low form, or divide into two swarms and run each division with a super and upper tier of frames or cards, or I can lift one

half the low chamber on to the other and start the extractor with the increased swarm. Usually in this form they do not swarm, but this season most of them swarmed. I would state that I had the advantage of between three and four hundred empty cards. I think it is safe to say that I obtained four thousand pounds more honey than I should if I had not had them, thus showing the value of good empty cards to work with. I shall have about the same number to work with another season if all is well. The ten young swarms I spoke of in my report I do not remember whether they were all from those I run with the Extractor or not. I only know that most of them swarmed once, some of them twice but I put back the second swarms. The 38 swarms averaged about 135 lbs each; from one swarm I took three hundred lbs, and three swarms of increase; another 239½ lbs and two swarms of increase. I suppose it will be borne in mind that I am some nearer the north pole than any other that reported, and in not a very good honey district at that; considering that no honey was extracted after July, I think I did well. I am now preparing my bees for winter quarters, taking off my upper story of cards and can verrify what I said, that I shall get some four or five hundred pounds more when putting up for winter.

A. H. HART.

Appleton, Wis., Oct. 23, 1875.

For the American Bee Journal.

The New Idea Hive.

Under the head of "Notes and Queries" in the July number, Wm. Herring asks how the New Idea Hive is constructed.

I ought, perhaps, to state how mine was made, so that Mr. H., or others, may not be misled by my former communication. Mr. Gallup said his were made double on the sides with one-quarter inch air-space; this being a colder climate than Iowa, I thought it only prudent to make mine a little warmer, so I made it of three thicknesses on the sides and two on the ends, with quarter inch air-spaces. In preparing for winter take off the honey-boards and cover the frames with cotton cloth; then have a frame three inches deep, with bottom covered with cloth and large enough to cover the top of the hive; fill this frame with saw dust and they are all right. I hold that bees are the best judges of the proper temperature of the hive, and they will maintain that degree of heat, if you will enable them to do so. My hives set quite low and the snow drifts around them, if necessary I bank up the snow some, not caring even if they are completely buried. Bees used to winter in this climate in single-wall hives and did well; why don't they now? I don't believe in the theory of bad honey, cold, &c. Honey is probably as good as it ever was, and the winters just as variable and no more so. I am one of the many who think that the cause of the bee disease is, that an epidemic has passed over the country imparing the constitution of the bees, and rendering them more liable to disease from causes that did not heretofore affect them.

My bees wintered well, but the cold spring, I thought for a while would ruin them, they run down so in numbers, and before I was aware of it, more than half became queenless. It was late in the season before the loss could be made good. They are all now in fine condition; I have not increased the number of swarms any, and took honey only from one hive, (about one hundred pounds). White clover, the only source this season, lasted about three weeks.

B. L. TAYLOR.

Minneapolis, Minn.

For the American Bee Journal.

Foul Brood—Artificial Feeding.

Salicylic acid, a new discovered chemical substance has been successfully employed in the extermination of foul brood in Germany. I find the latest report thereon in the July number of the *Bienen Zeitung*. Mr. Mayer reports that he has conquered the disease in stocks where 80 per cent. of the sealed cells were diseased. The manner in which Mr. Mayer uses the acid is very simple; he sprinkles the combs with the acid diluted with warm water and at the same time washes the sides, top and bottom with a rag moistened with the diluted acid. He likewise feeds the diluted acid in the food in "rather strong doses;" but what he considers a strong dose, or how much he dilutes the acid, Mr. Mayer sayeth not. The year before Mr. Mayer melted down all empty comb to prevent the disease from spreading; he now makes use of them, first sprinkling them with the diluted acid.

Salicylic acid was formerly quite dear, but it is now manufactured in America by a chemical laboratory in Baltimore, so that it can now be obtained for less money.

I also noticed in some of the back numbers of the German bee magazines that persons have greatly stimulated breeding, and consequently strengthened their stocks, by feeding milk and also eggs to bees. Not having seen any notice of such practice among American apiarists, I take the liberty of adding the following details as to the method employed:

In one litre (a little more than a quart) of boiled milk, dissolve a pound of sugar and feed to bees, in shallow troughs, at any time of day, without fearing robbers, as the sugar does not attract bees. Mr. Hilbert, who has practiced this kind of

feeding most successfully, fed 30 swarms from the 20th of April to the 20th of June with four and a half litres of milk and four and a half pounds of sugar daily.

Feeding eggs is managed as follows: The eggs (both yolk and white) are well beaten together, after the tread has been removed. One part of eggs is then added to two parts of cold sugar syrup, made by boiling seven pounds of sugar in four pounds of water, care being taken to skim the same. Hilbert feeds about six eggs weekly to one swarm, feeding the quantity mixed with two eggs every other day. When this or any other stimulating feeding has been commenced, it must be continued to the end, that is until the bees are in every way able to take care of themselves, as the sudden lack of food would seriously interfere with brood-raising.

JOHN P. BRUCK.

Los Angeles, Cal., Dec. 14, 1875.

For the American Bee Journal.

Bees in California.

In the AMERICAN BEE JOURNAL for September, 1875, I noticed a communication over the signature of "G. F. M;" a *few* of the false statements of which, I wish to contradict. When I wrote the first letter to the AMERICAN BEE JOURNAL I made a simple statement of *facts* as to the *income* of bee-keeping. I stated nothing as to the *out go*, as I had not enquired into the matter at all. I made no pretention to a knowledge of bee-keeping. Neither did I write the letter with any intention of inducing any person in the world to come here. In due time after the publication of that letter, I began to receive letters of enquiry as to locations, and chances for bee ranches, cost of hives, lumber, hauling, prices of groceries, flour, etc., etc., all of which I answered correctly. I now wish to show up some of the inconsistencies and contradictions of the communication of "J" who received a letter from a "prominent Kansas bee-keeper." By way of parenthesis, I will state that G. F. M., is located on one of the prettiest claims in the county of San Diego just six miles from mine and it is not a "*desert*" by any means. I am at a loss to understand how a man can state in his letter, that a country is a "desert" and in the same letter state the *fact* that the country is "overrun with swifts, horned-toads, snakes, ground squirrels, gophers, rabbits and quails." Query. *What do they* live on? I always supposed that sheep and cattle had to have grass, etc., to live on, and that thousands of sheep and cattle *do live* here and live *fat too*. This, G. F. M., cannot with truth deny.

Now as to some more of "J's" *facts*. "Some 500 or 600 miles" etc. It is 480 miles by sea from San Francisco to San Diego. I have traveled that whole distance overland on horse back on purpose to *see* the country. 50 miles south of San Francisco is San Jose. The plain or valley surrounding which, 20 years ago, was thought by novices like G. F. M., to be a "*desert*." Now it can not be bought for less than from $200 to $1,000 per acre, it now being under a high state of cultivation and covered with vineyards and orchards and fruits of all kinds; and in the fall of 1868, I saw hundreds of bushels of apples rotting on the ground, there being no market for them. 30 miles south of San Jose is Gilroy, with a rich farming country surrounding it. 20 miles south of that is Hollister, with the same. Between Gilroy and Hollister lies Soap lake, out of which flows the Pajaro river, which "reaches the Ocean" all the year round. 30 miles south of Hollister is the valley of the Salinas River which for a portion of the year at least, "reaches the Ocean" in something besides a "dribble," perhaps. (?) "J" knows more about that, than I do.

The valley is a *rich* farming country and *not a desert*, "J" to the contrary, notwithstanding. Next comes San Louis Obispo, with some more good farming country, the people of which, would not thank "J" for publishing their county as a "*desert*." Next comes Santa Barbara, the same. Then comes Ventura Co., with just as good farming land as a man need live on. Next comes Los Angeles with her thousands of acres of orange, lemon, lime, peach, pear, apricot, plum and prune orchards; as fine as any in the world. Also her thousands of acres of vineyards producing vast quantities of grapes, wine, etc. Not *much of a desert*. The average corn crop of Los Nietos, Anaheim, Santa Ana, and San Bernardino, is from 80 to 100 bushels per acre.

When I refer to fruits and harvest fields I *don't* mean a portion of the State 500 or 600 miles north from where I live, but I mean *right here* in San Diego Co. Yesterday I saw a white turkey fig tree three years old, without a drop of water put on it since it was set out, and not a thing done to it in the way of cultivation since the first season. This was frozen to the ground the first winter, and on it I saw 113 figs.

Men who plant and sow here, and do it when and how it should be done, get just as good returns for their labor as in any of the western States, where they are as far from market as we are here. *Good* men get just as good wages and as steady employment here as in any country I ever lived in, and I have lived in Pa., N. Y., Ohio, Ind., Iowa and Missouri; and today, I would not trade my little 160 acres for the best farm in either of those States and be compelled to go there and live on it and work it myself, or hire it worked

for that matter. I am a carpenter and get $3.00 and board as the lowest price I work for. The statement that "Masons they have no use for, as they don't build brick or stone houses on account of earthquakes," is simply laughable. In San Diego, Los Angeles and San Bernardino, there are plenty of brick houses.

It is true that many of the bee men are living without women, "baching it," but many more are not. The *majority* of settlers here have wives and families, and more would have if they could get them *worth having. Good, marriageable white girls, are not very plenty here.* G. F. M., has just called in and I read this to him. We had quite a laugh over it. He confessed that he had the blues when writing it and probably wrote as he felt. He called my attention to a communication from M. M. Baldridge, in the July number of the AMERICAN BEE JOURNAL, that bees in Harbison hives could be bought for $2.50 per colony, etc. John Myers, a resident of Los Angeles, while at my house, told me that he was offered a lot of bees for that price in exchange for cows, and made the rest of the statement as I gave it, I supposed it true. It seems that the case was an exception.

One statement more of G. F. M.'s. "They can't raise a thing here, farming," etc. O. Oakes, at Bernardino, raised over 3,000 sacks of wheat and barley and a large quantity of hay, how much I did not enquire. Benus Sikes also raised a large amount, and many others raised grain, this year, and lots of grain is being shipped from San Diego this year, and a great deal was shipped away last year.

We have no starvation here nor have we been eaten out by grasshoppers as they have in Kansas and other western States.

Bernardino, Cal. W. J. WHITNEY.

For the American Bee Journal.

A Chapter of Failures.

MR. EDITOR:—Many of your readers, doubtless, remember, that two years ago I wrote an article on the "Bees That Were." Well, to-day I might appropriately make a similar heading to this, for my entire apiary of seventy-six stocks have again gone to "that bourne from which no traveller returns." The difference is only in the cause of their disease—namely, foul brood.

I wish to give my experience with the disease, hoping that bee-keepers may be benefited thereby, but perhaps, only in a small degree.

The cause of the disease among my bees remains to-day a mystery to me. But perhaps the perusal of this article, by the "head-lights" in bee-culture, may elicit a solution.

The only theory I can find—but I must admit that to me it is quite unsatisfactory—is this: In the spring of 1874, my bees did not leave their winter quarters in a perfectly healthy condition. They showed signs of dysentery, doubtless, caused by dampness; my clamp was built late in the fall, and hence it did not dry out perfectly before putting in the bees, and the spring being cold and backward, many of them died before the first honey flow. I being absent, my brother took charge of the bees at that time. Being desirous of increasing the bees as soon as possible, and believing that every pleasant day would be the last of cold weather, it was already late, compared with other seasons, he thought to increase the brood by spreading it, and inserting an empty comb. This, however, proved disastrous, as the next cold snap chilled the brood, and the result was the very reverse of what was desired—they decreased instead of increased in numbers.

This is my theory, viz. :—that through the chilled brood, at that time, the disease found its way into the hives; although the dead brood was all removed, as far as I know. But the effect of the disease remained unnoticed; for they increased remarkably after warm weather set in; at any rate, I doubled the number of stocks, and obtained an average quantity of honey, the season being hardly an average one. Now, this to me is a query. If the disease came through the source mentioned, why did it not show its disastrous effects?

Last spring my bees wintered excellently, if dryness and a large number of bees are criterions. Out of sixty-one stocks I found but one dead.

The spring was again cold and backward, but having learned a lesson the spring previous, I did not feel disposed to repeat the experiment of enlarging the brood-nest, so I let them alone, except doing such other work about them as was found necessary. I noticed no dead brood. When warm weather began in earnest, I examined them all closely, and found, perhaps, twelve in a rather weak condition. One was queenless. I lost a couple, the rest I assisted from other stocks. They increased nicely, except three,—this was, perhaps, June 1st,—these had a slight sprinkle of dead brood. Never having seen the disease, "foul brood," I came to the conclusion that, in consequence of the bees being few in number, the brood chilled, the same as the season before. I contracted the brood-nest, and inserted a card of hatching-brood. I was so confident of success in this that I did not look at them for sometime. At my next examination I found that they had not increased, also dead-brood was visible. I then examined the queens, and to my surprise I found two of them crippled. Then my theorizing fell at once upon these queens, but there re-

mained still a stumbling-block. There still remained one queen, which, alas! for my theory, was a beautiful young Italian, without any apparent blemish. The thought of foul brood was of all the most distant; it being of such a distinctive nature that I could not believe I could be so unfortunate as to get it; so I experimented anew. I removed the deformed queens, but not having young queens on hand it took some time before brood from the new queens was hatched. The other stand I again assisted from others, and afterward thought I saw a decided improvement in their condition. But with these experiments, time passed rapidly. We were now fully in the swarming season, and my bees swarmed and increased better than ever, except the three mentioned.

During swarming time I was so busy that I did not pay much attention to those. It was now after linden bloom, Aug. 24, when a neighbor, who had purchased six stands of me the fall previous and had two of them affected likewise, had invited two of the prominet bee-keepers in the neighborhood, Messrs. Tenmark and Potter, to call on him, and this was the day of their visit; I also enjoyed their company. Here the condition of our bees was naturally discussed, which finally resulted in an examination of the diseased stands. Mr. Potter, who said he had one similarly affected the season previous, pronounced it "foul brood." This was the first intimation I had of the nature of the disease. I went home, gradually waking up to a very unpleasant discovery. I examined my bees, and *nearly all were affected with the disease;* all except the new swarms, of which I had a few, having mostly divided, and a few others.

The linden flow was so abundant that nearly all brood-raising ceased, in spite of extracting. At the examination spoken of, the first lot of brood since linden bloom was hatching; hence it was the first time possible for me to make the unpleasant discovery, as previous to linden bloom no signs of the disease could be seen, except in the three stands spoken of. Now, what was to be done for a remedy? The season was now nearly over; added to this, it rained almost constantly. On the 23d of August we had a frost, which destroyed some of the buckwheat. I immediately ransacked my file of Bee Journals for a cure. I wrote to D. Burbank and others; but the only thing I found recommended as an expedient and sure cure, is that described by M. Quinby —that is, to put the bees in a clean, empty hive, and let them build up anew. But as the season was too late, I could not adopt this cure, not being able to buy sugar to feed them, even if time permitted. Mr. Dadant sent me a recipe, which has been used in France the past season with great success; it is simply Salicine, in dry or liquid form; if dry, it is dissolved in water, and with a feather brushed over the comb, removing the worst parts with a knife. I tried it, but discovered no good effects. The only thing left me was to winter my bees, and trust to a cure the coming season, or to sulphur them.

The bees gradually dwindling away from lack of sufficient young bees, and the fall season being a total failure, it left many weak and light in stores. Were I to unite them it would have been necessary to reduce them two-thirds. There were other obstacles in the way which made this plan impracticable; so with a poor grace I concluded to smother them, which I accordingly did.

I sold three stocks to a party, about the middle of May; they were some of the best I had; these were removed over two miles from my yard. On examining them in the fall, the old stocks and a divided one were found badly affected with the disease, while three swarms were free from it.

During linden bloom I extracted all the stocks, including the first affected; the scraps I placed outside for the bees to clean out. Now, it may be said that this was the means of spreading the disease among my stands; but how did the bees, over two miles distant, get at the scraps? Of course they *might* have reached them, but it is not probable, as there was an abundance of honey in the field; and why were not the swarms similarly affected? Then they had plenty of storage room.

We have now reached a stage in bee knowledge where it seems that a cure, as regards foul brood, is more easily affected than to prevent the disease, as the cause of it, at least to me, is an unsolved mystery.

I might describe the disease in detail, but I know it has often been done, and as this article is already much longer than I could wish, I will refrain giving a detailed account, unless requested to do so at some future time.

From close observation, I have come to the conclusion that the disease is directly caused by spores,—vegetable growth,—which causes putrid fermentation. This theory is confirmed by an illustration in Mr. Dadant's French chromos. I find much of the putrid matter in the cells lies near the top, and by cutting off the caps with my capping-knife, the knife turned black from the acid, which seems to point conclusively in the direction I have indicated.

What we need to know now is—where do the spores come from? I hope the subject will be thoroughly discussed the present winter; perhaps much benefit may be derived from it.

Parties wishing to write me will please notice the change of address.

Hamilton, Ill. J. D. KRUSCHKE.

For The American Bee Journal.

Wintering.

In writing upon this well-worn subject, we do not propose to repeat old theories, or tell the same stories that others have told. We wish merely to give the results of our observations in apiaries within a radius of twelve miles from our own.

In the fall of 1874, a neighboring bee-keeper had 150 swarms of bees in Clark's patent box hive. This apiarist was one of the procrastinating kind, and though he was going to put his bees in a winter repository, the winter was allowed to pass before he was ready. Meantime the long continued cold weather, an exposure to the fierce north wind, and no upward ventilation, killed 140 swarms of his bees. In all the hives we examined, there was a large space of moisture and rotten comb, just under the honey board, the latter was nailed on tight.

Another apiarist put 20 swarms on the south side of a tight board fence, putting a quantity of straw and corn-stalks around the hives, leaving the fronts exposed to the sun; they came out spring poor, and many of them dwindled away before flowers came. Still another put his bees in the cellar, they came out in good condition in April, but the month proving very cold with frequent snow storms proved too much for 2- swarms, and only six were left to greet the blooming of flowers. These bees were in large hives that could not be readily moved in and out of the cellar during cold storms, this was evidently the cause of loss, for a neighboring bee-keeper carried his bees carefully in and out of the cellar at least a dozen times, and they all came out strong, and stored an unusual amount of honey. It requires a considerable lugging, and perhaps something of a back-ache, but in this instance it paid for the extra trouble.

Another acquaintance of ours winters his bees about 20 swarms in a 7x9 room, directly in the rear of his kitchen, and there is only a common partition with a sliding door. The kitchen stove is located near this partition and the pipe passes directly through the room; no record was kept of its temperature, but it must have been quite warm at times, as all the cooking and other household work was done with the stove. This room has proved successful for three years, and every season his bees make an unusual amount of honey, one swarm making over one hundred pounds of box-honey and casting a swarm. He uses the common box-hive.

Another bee-keeper having eight swarms, commenced wintering them in the cellar, this proving too damp, they were moved up stairs into a dark room, this also not proving satisfactory, they were moved out doors, and set against the west end of the house, and these swarms, in spite of these frequent removals, came out in good condition, except one hive.

I could give you further examples of successful wintering and of disastrous failures, but from the foregoing examples, I think, your readers can absorb a few hints that may be of aid to them in wintering.

First of all lessons, learn to be prompt in your dealings with bees; oftentimes they will admit of no excuses from duty.

Bees in winter quarters need but little waiting upon, but when the necessary aid is required the apiarist should be on hand, ready for any emergency.

Our bees are in a cellar, ventilated with a pipe from our sitting room coal stove, a strong draft is pouring up this pipe continually. We make it a point to visit our bees every day, to see if every thing is all right. Our outside door is lined with a thick mat of straw, during mild weather the inner door is opened, and air can circulate through this thick mat. The cellar keeps at a uniform temperature of 45°.

SCIENTIFIC.

Dec. 13th, 1875.

For The American Bee Journal.

Foreign Notes.

Does the queen bee lay worker eggs or drone eggs at will, or does she simply do so mechanically, and without any study? This is the question which is now being solved by the Society of Bee Culture, of *La Gironde.*

A discussion took place last season between Messrs. P. Brun and Ch. Dadant on one side, and Mr. E. Drory on the other, in the columns of the journal *Le Rucher*, an excellent little bee monthly magazine published in the city of Bordeaux by the last named gentleman.

Mr. Drory holds that the queen bee, when depositing her eggs, has a full knowledge of what she is doing, and that she lays drone eggs or worker eggs at will. Therefore, according to this able bee-keeper, the queen bee does not begin to lay drone eggs until she feels that the colony is becoming strong enough to swarm, and then she hunts up the drone cells and lays in them. Mr. Drory holds that if a queen is furnished only with worker cells, she will, at a given time, lay drone eggs in these worker cells, so as to provide the colony with drones. On the other hand, he says that a queen in a hive with nothing but drone comb will lay worker eggs in these drone combs.

Messrs. P. Brun and Ch. Dadant hold that the queen does not know whether she lays drone or worker eggs, but that she has more pleasure in laying worker eggs than drone eggs, and that she will only lay drone eggs when she has no longer any worker cells within reach. They hold that if a queen is placed in a hive

containing no drone cells she will lay only worker eggs, and that if a drone comb only be given her she will lay drone eggs in the cells. They hold that a queen can be made to lay drone eggs early in the spring by giving her some drone comb in the middle of the brood chamber, but that she will lay drone eggs only when she cannot do otherwise.

This discussion was brought before the Society of Bee Culture of *La Gironde*, and a commission of three members was elected by the society to make experiments on this subject. An empty hive was furnished with five combs containing drone cells only, one of which was full of honey. A colony was placed in it with a queen newly fertilized. The queen was very prolific. The hive was put in the cellar on the 7th of September, and left there ten days. The queen had not yet laid any eggs. On the 24th of September, *i. e.*, one week after, she had laid about 100 eggs in a part of the hive where there were about twenty worker cells. On Oct. 1st the hive was opened again, and it was ascertained that the brood was partly sealed, and that all of the caps were flat. Several of the drone cells were then opened, and it was ascertained that they contained worker chrysalis; that these workers were well formed; that they had all the characteristics of worker bees; that these bees did not occupy all of the space in the cells, and that in none of the cells had the walls been thickened or the cell made narrower. On Oct. 8th the hive was opened again, and it was found that a certain number of bees had hatched; that they were all worker bees; that the bees, when hatching, made an opening in the cell of the exact size of their body, and that the remnant of the cap remains around the rim of the cell. No chrysalis of drone was found.

This seems quite conclusive. Still Mr. Dadant says, that as the drone comb was dark and old, he would like to see the experiment tried again with new combs. He thinks that the drone cell may have become narrow from age and use.

We will keep our readers informed of the future experiments of this commission.

C. P. DADANT.

Hamilton, Ill.

The Michigan Bee-Keepers' Association.

KALAMAZOO, Mich., Dec. 1, 1875.

The Ninth Annual Session of the Michigan Bee-Keepers' Association convened in Corporation Hall, at 2 P. M., Vice-President A. C. BALCH in the chair. A large number of the leading apiarists of this and adjoining states were present; and but for untoward circumstances, the number would have been much greater. The annual session of the National Society at Toledo, O., which commenced today, prevented many from meeting with us, while business engagements compelled the absence of several of our most active workers, among the number being President BIDWELL, Prof. COOK and Mr. F. F. BINGHAM. But the enthusiasm of those present compensated for the lack of numbers, resulting in one of the most valuable gatherings we ever held.

President BALCH stated that as this was an annual meeting, the regular business of the Association would be transacted before taking up the programme of the convention. The Secretary read the minutes of the May convention, which were approved. The Treasurer's report exhibited a handsome balance in the treasury, evidencing a healthful monetary condition. The Secretary then read a detailed report of his work for the Association for the past year. He stated that our Association enjoyed the reputation of being the oldest existing organization in America, and that he had received evidence from various sections of the country that our proceedings were looked for with even greater interest by the masses of apiculturists, than those of the National Society.

Notices of the meeting were widely circulated, and an extensive correspondence instituted with a view of obtaining as many essays on practical and scientific topics of interest to bee-culturists as possible; many good promises were obtained, but very few papers were received. He also stated that many complaints had been received because the convention was held at the same time as the Toledo meeting. In explanation he cited the convention to the fact that when we adjourned last May, it was the general impression of those in attendance that the Toledo meeting would occur the week previous to our own, as their reports stated it would be held in November. From this it would readily be seen that we entertained no desire to interfere with that body, and that if any charge of interference was to be sustained, it lay at the door of the management of the National Society. After the transaction of other business, the programme of the convention was taken up by the reading of a paper by J. P. MOORE, Binghamton, N. Y., entitled "The House Apiary," by the Secretary; in introducing the first topic: "Will the introduction and general use of the 'House Apiary' be advisable?"

Mr. MOORE stated that after three years experience with the House Apiary he could say but little in its praise; that it gave no better results in honey; the bees would swarm even worse than out of doors; and that it was ever so much more work to manage bees in the House Apiary than out of it.

The subject being comparatively new, it elicited but little discussion, though it was the general impression among those present, that it was unsafe to invest in House Apiaries from our present knowledge of them.

Pres. BALCH—I think that most of us will agree that, in this, as in all other delusions, it is better to let well enough alone.

JAMES HEDDON thought it exceedingly imprudent in this Association to question the practicability of the House Apiary, since A. I. Root had built a House Apiary, had talked, run, and photographed it. Thus it will be seen that we are most effectually forestalled in the discussion of this question.

H. A. BURCH stated that the problem was a new one, but thought it advisable to consider it, inasmuch as it was attracting much attention among bee-keepers. If it be altogether impracticable as now seems probable, the sooner we know it the better.

The next topic, "Winter Bee-Keeping," was introduced by a paper on that subject from Rev. A. SALISBURY, Camargo, Ill. Mr. S. considered the philosophy of hibernation at considerable length, the discoveries and teachings of science and their application to the subject so as to secure uniform and complete success in this particularly hazardous field of modern apiculture.

Pres. BALCH—Though I may ride a hobby in the frequent repititions of my views on this subject, yet I will again repeat them by saying that my experience has been — the less ventilation of the hive during the winter months, the better. Nature guides the bees to seal up the hive perfectly tight as the fall months approach. This is the result of instinct implanted in the bees by their Creator, who is wiser than we. Upward and lower ventilation produces a draft of air through the hive. This disturbs the bees; those on the outside are constantly trying to get inside the cluster. This causes them to eat, and the result is dysentery. 'Tis true that a little moisture may accumulate in the hive, but no mould will collect that will not vanish during the first week of warm weather in spring. I never disturb bees so late in the season that they cannot again seal the hive up tight.

H. A. BURCH—Mr. Sailsbury's success is certainly a point in favor of his theory and practice. Success is the measure of the value of any method.

Pres. BALCH—While this is quite true, they might have wintered even better with no ventilation at all. Try it and see.

JAMES HEDDON—Has any one made a careful series of experiments with a view of testing this ventilation business?

Dr. W. B. SOUTHARD—I have done so; but it wasn't last winter when my bees all died. Some years ago I gave nearly all of my bees an abundance of both upward and lower ventilation; they wintered well but consumed lots of honey. This winter I removed all honey boards, placed a piece of sacking on top of the frames and covered it with two inches of bran. By using a double thickness, found the lower one 10° the warmer. Wheat bran is an excellent non-conductor, and absorbent of moisture. Very little moisture has accumulated in my hives thus far. With upward ventilation large amounts of honey are consumed—three times as much as with none at all. 'Tis impossible to keep an even temperature in the winter repository; but we should approximate it as nearly as we can. Bees winter more safely in box hives than in movable combs.

JAMES HEDDON—In the winter of 1871 and 1872 two of my neighbors had sixty-five and eighty-five stocks respectively. In the following spring they had but one apiece left. All the other bees kept in the vicinity died. These bees had increased from small beginnings and had been wintered with no loss in previous years, under precisely the same treatment. All were wintered on their summer stands in box hives. Where this bee-disease prevails our bees *will* die—saltpeter won't save them—which renders the business extremely precarious.

Dr. SOUTHARD—By keeping the hives tight at the top you keep the bees warmer.

H. A. BURCH—And foul air accumulates in the hive.

Pres. BALCH—Will our medical brethren please state whether the air is more foul in a tight room at the ceiling than at the floor.

Dr. SOUTHARD—In the absence of a direct experiment, could not say, though doubtless at the floor. Ventilation at the bottom of the hive will eliminate the foul air.

A. S. RANNY—The air at the bottom of a perfectly tight living room, is the most destructive of life.

Dr. A. S. HASKINS—The above is in accordance with the teaching of science and is doubtless true.

JAMES HEDDON—In younger years I supposed there were certain fixed facts applicable to everything, but have found it is a mistake. For generations back it has been supposed that loading a gun heavily will scatter shot; but such is not the case, even though our grandfathers did believe it, and many of the people of to-day believe it still. Years ago everybody recommended upward ventilation; it was all the go from Langstroth down. Mr. Langstroth relates an instance in his book of a friend wintering seventeen stocks on their summer stands, only one having upward ventilation. The mercury went fourteen clapboards below zero, and the bees all died save the one that was all

ventilation. During the past two winters I have given my winter repository both upward and lower ventilation; have ventilated some hives, others had none, but it makes no difference. Neither does the kind of food they have to eat; some of mine had all basswood, others all flowers, never saw any difference in results. What kills our bees *is a disease* which I know little of, save that it is intestinal. Can save more bees when they are diseased by keeping them at a uniform temperature. Keep the temperature at the point the bees call for—the degree of heat in which they are almost perfectly quiet. Two years ago my bees were satisfied with 42°; last winter they insisted on 32°. The past season I saved swarms that had been sick for two months—not in good condition—though by using combs that were employed last year in raising nine cent extracted honey. I increased fifty stocks to one hundred and five, to raise twenty-five cent box honey with another season. When the bees are a little sick, good care will save them; but if badly affected saltpeter won't do it.

Pres. BALCH—Prof. Cook carefully tested the ventilation theory some years ago. A hive was heremetically sealed up in the fall and allowed to remain so all winter. When spring came the bees were all in good condition except Balch's that could'nt be resurrected. But the bees were not dead, only in a semi-dormant condition, and proved to be worth more than any three of the others. What *produces* the disease is upward ventilation; it makes bees eat—they can't void their fœces—they die of dysentery.

JAMES HEDDON—'Tis an epidemic and not contagious. Four years ago when my bees all died, I brought in a box hive from the country in midwinter and placed it in the center of the cellar, surrounded by other swarms; all the others died while this one came out in splendid condition even though it was badly stirred up in getting it home.

T. S. BULL—Have wintered my bees in my house cellar for many years with splendid success, never having lost all. My plan is to remove honey board in the fall and cover tops of frames with a piece of factory; as the spring months approach, cover the cloth with sawdust. The cellar is dark though a light is carried in often to procure vegetables; temperature uniformily 50° Farenheit.

JAMES HEDDON—It is generally supposed that brood-rearing in a winter repository will lead to disastrous results; will Mr. Bull relate his experience in this direction?

T. S. BULL—Two years ago a hive accidentally fell from a shelf on which it had been placed, to the bottom of my cellar, smashing the combs. I cleaned up the muss as well as I could, and succeeded in patching up a couple of combs. These were placed in the centre of the hive with an empty frame between them. Those bees filled that empty frame with comb, the queen deposited eggs therein, the eggs produced perfect bees, and the swarm came out in splendid condition. The honey that was daubed on the hive and bottom board stimulated them to breed. I take no precautions against noise; they soon become accustomed to it, and remain quiet.

Dr. SOUTHARD—Noise will not disturb bees at 35° when it will at 50°.

JAMES HEDDON—At our May convention Mr. Bingham gave a detailed account of his system of ventilating his winter repository, which is admirable, as he can keep the temperature at any given point. Still he has lost heavily, and is now in the South with his bees, because he *knows that nothing will save diseased bees* in a cold climate. When bees are diseased don't disturb them. If anything ails a babe it wants to eat. (Had I realized that our medical brethren were present, I wouldn't have said it.) 'Tis just so with a dyspeptic man. Nature's prime want is hunger. An abnormal condition of the system—physical weakness—calls for food, for relief, which at best is only palliative, but more frequently an aggravation. Disturb bees and they will eat.

Pres. BALCH—'Tis instinct to eat. They carry honey with them when they swarm, which is natural.

JAMES HEDDON—This is true of summer, but not winter. Has any one present ever wintered bees so they would not speck the snow in spring? This is what I would term perfect success.

Pres. BALCH—Have heard of such instances, but they have never come under my personal observation.

JAMES HEDDON—I want neither too old nor too young bees to winter well. Bees should not rear brood so late that the young bees cannot fly freely.

Dr. SOUTHARD—No doubt some have had admirable success in wintering with upward ventilation; but they will eat more. My experience says that this has nothing to do with the result, however. Heat and cold is at the bottom.

The Secretary then read a paper from J. H. NELLIS, Canajoharie, N. Y., on "Success in Bee-Keeping." Mr. N. gave a very correct and comprehensive epitome of the requisites of the art, which was well received and discussed as follows:

JAMES HEDDON—This is one of the best papers ever read before a bee convention. I do not wish to criticise for the sake of picking flaws, but will discuss one or two points contained in Mr. Nellis' paper. When bees were plentiful in box hives and cheap withal, capi-

tal was of "secondary importance;" but the low price of honey and high price of bees makes capital inseparable from success. To succeed we *must* have capital in the shape of a large apiary, all the needful appliances for rapid manipulation, and a business eye for "the main chance." Avoid having too many irons in the fire, and give your business your undivided attention. Bee-culture don't agree with farming nor any other business. There will be a clash and one or the other neglected, and of course unprofitable. The average bee-keeper must have strong stocks to make a success of "honey gathering rapidly." A good mechanic can make a good job out of poor stock, but a poor mechanic will make a poor job out of the best stock. The same is true of bees; a skillful apiarian can secure good yields of honey from weak stocks. An extractor is a convenience, not a necessity. Occasionally it will come in play for extracting broken combs so as to patch them up. Will you raise 9 cent extracted honey for a dull market, or 25 cent box honey for a ready market? My advice is to keep larger apiaries and raise honey in small glass boxes.

T. S. Bull—How would you dispose of our dark fall honey? Will *that* sell in boxes?

James Heddon—Most assuredly it will. My father is a traveling agent for a manufacturing firm of our town, and is thoroughly posted in regard to the best honey markets of the country. He recently advised me to quit using the extractor altogether, as the price of extracted honey is constantly receding. He says that box honey only will be profitable in future; and that the darker grades will sell well in a 2½ pound box.

Dr. Southard—Will not the bees crowd the brood chamber with honey, when the extractor is not used?

James Heddon—My opinion is, that an extractor is *never* necessary for this purpose. Seven years of practical experience in the apiary is the basis of this belief. Mr. Burch has succeeded admirably in securing box honey, with no aid from the extractor, while Mr. Bingham regards its use as of no advantage whatever. Don't use large hives, but small ones; the bees *will* breed below and store honey above in boxes.

[*Concluded in our next.*]

For the American Bee Journal.

How Are The Mighty Fallen.

It is rather amusing to hear the champions of the Honey Extractor "go back" on their old hobby. They were riding it so long that I thought it impossible for them to fall off. But, lo, even the ever-changing Novice lost his balance and fell with a thud. "No more Honey Extractors!" "Too much liquid honey!" "The price is not remunerative and the market is overstocked."

I am sure the market is not much overstocked with *good* honey, but the truth of the matter is the Extractor does not secure the enormous amounts that Novice's "All-Metal light-running" machines are represented to do. *Ex nihilo nihil fit.* Nature produces the honey and the bees gather it and always find room to store it in their own hexagonal jars.

The work required in the use of Extracter, going from hive to hive, removing the comb, uncapping the cells, returning the comb and closing the hives, begins to tell on these Extractor champions, and they cry out.

Twenty cents per pound is a paying price in "hard times" for box honey, and if three times the amount of extracted can be produced, as we have been told over and over again, (see back volumes of of Journals), why not hold to the Extractor? Extracted honey per pound 8cx3= 24c. Here could be a gain of 4c on box honey.

Gentlemen, please be consistent. "Truth is mighty and *does* prevail."

Novice is to be pitied as "Othello's occupation" seems to be gone.

Since the Honey Extractor "wild fire" wears such a "long face" and bewails its misdirected efforts, would it not be wise for us to be a little easy on the Foundation Combs? H. H. Flick.

Lavansville, Pa.

Holding Fast to its Old Name, which it has carried successfully through the long period of *thirty-four years*, the *American Agriculturist* swings out its banner for the "Centennial Year" with the vigor of the prime of life, and with well founded promises of still greater achievements in its appropriate sphere—that of a plain, practical, highly instructive and trustworthy family journal. Its name, adopted at the start for a special field of work, has become almost a mis-nomer, because it is now equally useful to City, Village, and Country. The closing number of volume 34, now before us, like its usual issues, is full of good things, varied in contents, which are prepared with much labor, thought and care, and illustrated with over 60 well executed and well printed original sketches and engravings. This *Journal* is a marvel of cheapness, beauty and utility, costing only $1.60 a year, postage included, for its more than 500 double pages of useful information, and 500 to 600, or more, of fine engravings. Every family should have it.—Orange Judd Company, Publishers, 245 Broadway, New York City.

Notes and Queries

ANSWERS BY MRS. TUPPER.

My bees in the cellar are very uneasy—they keep up a continual noise and many of them are running about the entrance and outsides of the hives. What causes this, and how shall I quiet them? H.

They are too warm or else your cellar is light. Reduce the temperature in some way; leaving the outer door open at night is a good plan and exclude every ray of light. If there comes a warm day, set them all out for a few hours and let them fly, then put them back.

I have 4 Langstroth hives with honey boards. Were put in cellar Nov. 4th, that being a clear, dry day. From various causes was only able to feed them up to that time 9 lbs sugar in 3¼ gallons water to each hive, besides which they had about 3 lbs honey each. Entrances contracted to about 5 inches in length, and are ⅜ inches high, and are now covered with wire cloth. My intention is to take off honey-board and put on a box or frame the same length and width outside as the hive, having a bottom of bagging or some similar substance of loose texture, sides 2 inches deep, with top of woolen cloth, and filled in with cut straw. Temperature of cellar to-day is about 53° Fahrenheit, and the bees in three hives are excited and buzzing. Shall I feed them, and if so, how? The cellar is dark. C. E. S.

Your cellar is too warm—and that is one reason of the excited state the bees seem to be in; 40 Fahrenheit is warm enough—lower than that will do well, never higher.

We think you put your bees in too early, and would advise, if there comes a warm day, to set them out and let them have a good flight. Your idea of top boxes is good, but they should have been put on before you put the hives into the cellar. We avoid all disturbance after they are put away. Put a pound or two of plain sugar candy over the frames under the box on top, and remove all wire from the entrance. The confinement helps to make them uneasy. After having them put away once more, let them alone until the 1st of March. After that they may be set out, and fed if necessary.

Voices from among the Hives.

SANILAC Co., MICH.—Dec. 7, 1875.—"In the spring of 1874, I had 48 stocks in Langstroth hives, all common bees; increased to 54, good season. I got 4,200 lbs of box-honey, and 1,500 lbs of frame honey. Our honey-producing plants are: white clover, raspberry and buckwheat. By August 1st bees became numerous. As I did not like to have them idle I put an empty hive on the top of the other, and three eleven pound boxes on the top of that. Honey was 18 to 20 cents per lb. The year 1875 was a poor season; cold and dry. On the first of April, I set out 52 stocks, most of them wintered very poorly; I lost 12 in spring by dividing. Reduced to 40 stocks; increased to 56 by dividing; only 36 made any surplus. They made 3,000 lbs box honey, besides enough to winter on. Price of honey, 20 to 22 cents a pound." JOSEPH LEE.

WOODVILLE, MISS.—Nov. 19, 1875.—"In the spring got from 120 to 130 lbs honey per hive, counting nuclei and all—about doubled stocks. No honey after August till the 27th ult.; for eight days did well; filled from five to eight frames heavy and others light. Unprecedented dearth, previous to this little harvest, caused a sad thinning in the ranks of my little workers and I have doubled up a number of stocks and given away seven or eight. Poplar is unrivalled, blooms from April 1, for about four weeks. Holly, from 13th April about four weeks, and sweet-bay from March 22 about 10 days. Linden is not plentiful; clover (white), very abundant, but yields no honey for me. Sourwood, chincapin, sweet gum, black gum, water oak all did well this year, also the crape myrtle and china. Last year the golden-rod surpassed everything else, this year it has scarcely been visited by a bee—so I find it hard to determine the relative value of our best plants. No frost yet to hurt and flowers abundant but no honey." ANNA SAUNDERS.

LEE Co., MISS.—Sept. 7, 1875.—"Last spring I opened a hive about 9 o'clock in the morning, in which there was an Italian queen that would have been five days old at 11 o'clock the same day. In the hive was a small piece of drone comb. I was surprised to see an egg in each drone cell. I opened the hive again in the evening, and there were no more eggs. The next morning there were 2 eggs in every drone cell, and in some, 3. No more eggs were laid for five days, when she began to lay worker eggs. I have been keeping bees 8 years, and have read everything during that time on the subject that I could get hold of, and I have never seen an account of a similar case. The drone eggs hatched, and in due time were capped over."

T. W. JOHNSON.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, FEBRUARY, 1876. No. 2.

Our Prospects.

We most heartly thank our numerous friends for their efforts to extend the already large circulation of THE AMERICAN BEE JOURNAL. We enter upon the work of the year 1876 with excellent prospects.

The "old and reliable" AMERICAN BEE JOURNAL has a reputation and standing the world over, and is alike welcomed, in the North, South, East and West on this American Continent, and in Europe and the "Islands of the Seas,"—making it at once the standard magazine of apiculture for a world. The influx of new subscribers during the past month has been larger than ever before, notwithstanding the general cry of "hard times."

"Excelsior," being our motto, we shall leave no stone unturned to keep and maintain the proud position so long occupied by this, the oldest Journal of apiculture in the world.

Finding our space too limited for the amount of valuable matter prepared each month, on which to regale our readers, we contemplate adding from eight to sixteen pages to each monthly issue, hereafter. The March number will be a gem, and will contain matter of vast importance to bee-keepers everywhere.

Since issuing the January number, we found that we had not enough to meet the requirements of new subscribers, and we have had to reset and republish another edition for that purpose. We can now supply all our new subscribers with that number. PUBLISHER.

☞ A correspondent desires some one in the habit of shipping comb-honey, to give a description through the AMERICAN BEE JOURNAL, of the manner found to be the most successful. Will some one please send us such a description in time for the next number?

A Mine of Sweetness.

Generally, when we hear of rich strikes, it is in the gold or silver line; but this time it turns out to be honey, pure and sweet. A few days since, as the workmen on the tunnel at Cajon Pass were hauling over some rocks, they came across a deposit of honey and took a pole and ran it into the mountain and were surprised to find no bottom. They got a longer pole some twenty feet long, and were unable to touch bottom with that. Upon withdrawing the pole, the honey began to run out, and soon tubs, buckets and two barrels were filled, and still it flowed. Some parties came into town and loaded up with barrels, and propose to make a business of it. They put in a charge of powder and blew off a portion of the rock, which disclosed tons upon tons of honey. Our informant states that after exploring it from below to where the bees were found to enter, it was found to be about one-fourth of a mile, and in his opinion, that the whole cavity is filled with honey; he estimates over one hundred tons in sight, and believes that one thousand tons would not be an unfair estimate. This immense deposit cannot be equalled by any ever found. According to the above estimate, it would take every barrel and hogshead in San Bernardino to hold it.

The above is from the San Bernardino *Argus*. It is a story rich and rare, and is being copied extensively into other journals. If it were true no doubt some of our prominent bee-keepers near that place would have given us a description of it. Will some one in that locality please let us know if there is *any* truth in it.

Alvin Taylor, of Proctorville, Vt., has taken thirty boxes of honey, 280 lbs., from six swarms of bees the past season, besides leaving enough for the bees to feed on through the winter. He has been keeping bees for twenty-seven years. Within the last eighteen years he has sold over four thousand pounds of honey, which averaged him twenty-five cents per pound.

"American Bee Journal:—Mrs. Tupper's 'Management and Culture of Bees,' for which I sent to you a few days ago, came, and has been read. It seems to me, her chapter on transferring, pages 14 and and 15, is calculated to lead the beginner into a fatal mistake. She says, in substance, as I understand her, that when the old gum has been removed, inverted, and the queen, with a majority of the bees, have been drummed into the cap, the cap must be removed to a cool place, the old gum sat upon its original stand until the flying bees enter, then removed to a new location, the new hive is to be placed upon the old stand, and the bees, with the queen in the cap, are to be shaken out in front of the new hive. Mrs. Tupper has written this little book for the guidance of the beginner—the novice—in bee culture. Now how are we, beginners, to know whether the queen passed into the cap with the other bees? How are we to know, but that she is still in her old quarters, with the few bees that may remain therein? If she shall so remain, what is to become of the new colony? They are queenless, and without the means of making one. For the sake of safety, ought not Mrs. Tupper to have instructed her readers, to give the new colony, a card or two of brood, with eggs, so that in emergency, a queen might be made? Will she "rise and explain?"

Columbia, Tenn. W. S. R.

We have always so advised, but where could she find a card or two of brood to give the queenless colony *at that season?* As a rule, it is always safer to give every new colony, whether artificial or natural, a frame of brood when it is hived. But if in the fall a hive be found queenless, it is often impossible to replace the loss.

The little book referred to is condensed information, and in so small a space it is impossible to give every particular. The beginner, however, who follows the advice there given will be safe; for in forty-nine cases out of fifty, the queen will go up among the first that leave after the bees have been properly alarmed. We have repeatedly seen her go among the first dozen. If she is not out with them they will not remain in the empty box, but fly out and remain in the air. If these directions are followed you will almost invariably succeed. Our idea is that beginners are only confused by a multiplicity of words. They need at first, directions which can be safely followed, without *asking the reason* why. The reasons can be given in another place. E.S.T.

Swarming in December.—The Fredonia (N. N.) *Express*, speaking of the peculiar weather of December, says:

"But we have even more startling testimony to present in regard to the weather. E. H. Darby, of Pomfret, on the last day of December hived a swarm of run-away bees. When Mr. D. tells this story he looks and acts as if he expected to be called a liar. But he states a fact, though it is an event that probably never before occurred in one of the northern States."

Marketing Honey.—A correspondent of the *Home Journal* advises apiarians to sell their honey, as far as possible, direct to the consumer. In that way he gets the advantage of the good quality of his honey, and soon finds that consumers are willing to pay a better price when they know that they get a good article, and not glucose, sugar-syrup, etc. That the true way to increase the consumption is to give a taste of the best. That he has found that those who the first year purchased only a few pounds, the next ordered 50 to 150 pounds.

☞ Parties sending merchandise or papers through the mails with any writing inside or on the wrapper, other than the address to which it is to be sent, subjects the whole to letter postage. Articles for the press must be paid for at letter postage rates. Correspondents should make a note of this.

☞ Particular attention is directed to the notice of the N. E. Bee-keepers' Meeting at Rome, N. Y., on Wednesday and Thursday, Feb. 2d and 3d, 1876. The notice was omitted from our January issue by an oversight. Let there be a full attendance.

☞ We call the reader's attention to the new advertisement of C. F. Lane. He offers seeds for honey-plants, at reduced rates. Bee keepers will do well to club together and get a quantity by express, as the rates by mail, as now arranged, are exorbitant. Mr. Lane will do all he advertises to do.

☞ Attention is called to the advertisement of J. Oatman & Co., who have given their spring price list for queens and colonies of bees. They guarantee satisfaction.

National Bee-Keepers' Association.

The annual meeting of the National Bee-Keeper's Association was held at Toledo, Ohio, Dec. 1, 2. As the Secretary has not furnished us with the detailed report, we glean the following from the Toledo *Blade:*

The first question discussed was, "What is the best method of preparing bees for winter and spring management; also, how many bees are necessary?"

Captain W. F. Williams, of Liberty Center, Ohio, said he was in favor of plenty of ventilation. Had had a colony of bees for the last eight years that had openings in the hive, so that the little fellows could look out at any time and admire the starry heavens, and those which were thus exposed were always strong and healthy. His motto was to keep strong, full colonies, with plenty of ventilation, dry and quiet. Successful spring management depended upon successful fall and winter management. He had tried double-walled hives, with no better success than those with a single wall.

Mr. B. B. Overmeyer, of Findlay, Ohio, said that his experience had taught him that the best time to begin to prepare bees for winter was about the first of August, and see that they got plenty of stores and young bees until frost came, as the weather became cold, to contract the size of the hive so that there would be no unnecessary room to keep warm, with plenty of comb to cluster in and over and down two sides of swarms with a little ventilation in the cap, and about one-third summer fly-hole open below, to protect hives from storms of rain and snow, and let the bees rest in peace until spring, then stimulate them and enlarge the room as needed, but no faster.

The next question discussed was, "What Caused the Great Mortality of Bees Throughout the Country last Winter?" Mr. Jonas Schell, of Connellsville, Indiana, said that in his section starvation was principally caused by bees not being able to get any honey on account of the cold. Mr. Blair thought that bees did not freeze, as a general thing. The good honey season, bees crowded the queen bee out so that the swarms were too small, and in consequence of the same they froze.

Mr. G. W. Zimmerman thought young bees were wanting according to his idea, and recommended placing in a warm place frequently to recuperate. President Benedict thought that when there was too much honey it should be extracted in time, and bees should not be too young to Winter. A swarm too small would chill, of course.

The President thought the mortality among bees last Winter was caused by a disease.

The question of what, how and when bees should be fed, was next taken up and discussed.

S. L. Diehl thought sugar syrup was an excellent food for bees, and cited an instance where one bee-keeper had fed over a hundred pounds of sugar and with good success. Mr. Zimmerman wished to know if the bees did not cap over honey, made where sugar was fed. Mr. Diehl replied that they did not. Mr. J. W. Lindley, of Iowa, said he lived where they had honey by the bushel. He had generally taken a sharp shovel, and shoveled off the top of the comb, and given the bees free access to it. The thing worked well in the fall, but he did not know how it would do in winter. Mr. H. R. Boardman had successfully fed bees a composition of two pounds of sugar to a gallon of water, and a pound of flour. This made a food something like honey, and he had been successful in feeding it. The President said it would not do to give bees honey or molasses through the winter as it would occasion dysentery. He fed clarified "A" sugar, eight pints sugar to five pints of water; it made as good food as honey itself.

The next question debated was, "The Best Mode of Increasing Swarms." Mr. J. W. Lindley had used all styles of hives. His wife said that if he raised bees he must do so naturally. He put the new queen back in the hive and generally had large swarms in two or three months after. Mr. A. Bair said he had read that Quinby remarked that a queen bee introduced to a few bees was equal to a swarm of bees. Mr. Lindley had had a different experience; only a *fertile* queen put back in the hive, as he had experimented, was equal to a swarm of bees. In twenty-four hours after she was put back he would have plenty of nurses. Mr. Hill thought that this process was well enough where the object was to make honey, but where increase of stock was desired, he thought that the better plan was to divide up the swarms. He had done so several times, and subdivided them as often as he found queens, and very successfully too. Mr. Lindley always caged the old queen, and had most generally been successful in so doing.

Mr. J. W. Zimmerman had made swarms in August from strong swarms. It was always proper to consider the condition of bees when swarms were made. They should be divided into as many cells as there were swarms desired. He would advise that course more than any other.

Mr. A. Bair would advise artificial swarming.

Mr. H. R Boardman's plan was to double the hives one over the other. When they brooded in both hives, and the queen could not lay enough eggs to keep them busy, he separated them and let them fly into either hive.

Mr. Snidley calculated to have about 300 pounds of surplus honey each fall with which to buy swarms. Mr. Schell had given up artificial for natural swarming. A colony previous to swarming were not inclined to worker comb. To increase worker comb, he found nothing like an old swarm being put into an empty hive. The bees would cluster in that hive and if not given comb, would generate wax and fill the comb with honey. Mr. Deihl had found artificial swarming always successful where there had been a division of the swarms. Mr. Bair would prefer natural swarming for honey, but not for increase.

The Convention seemed about evenly divided in opinion as to the propriety of natural and artificial swarming, both methods having a number of warm supporters. All agreed, however, that artificial swarming should be made as nearly natural as possible.

Mr. Bondman moved that a vote of the Convention be taken. The motion was carried, and the vote showed that 18 were in favor of artificial swarming, six in favor of natural swarming, and 12 were in favor of using both methods, as the case might be.

The next general question, "What is the best method of rearing and introducing queens?" was then taken up. Mr. A. J. Hill, of Mt. Healthy, stated that he was engaged in the raising of queens, and said that he took three nice bees, divided his stock, and put half with the queens and half without. As soon as the queen cells are ready to hatch out he cuts them out and puts them in new frames, and puts the old combs into the former frames, and continues this through the season. Raises all queens in large hives. In introducing queens he takes out the old queen, puts the Italian queen in a wire gauze frame, and places that in the center of the hive, and in a few days it is generally perfectly at home.

Mrs. M. A. Bills wanted to know if it was a common thing for queens to leave their stock, and of their own accord go to queenless hives, and wanted to know how the custom could be kept up, for it was a very desirable one.

It seemed to be the opinion of the majority of the members that the case was of frequent occurrence, but that it was seldom that it occurs as often as was mentioned by Mrs. Bills.

Mr. Zimmerman was in favor of introducing queens in cages.

Mr. Butler said he got his stock in the best possible condition; then removed the queen, and on the twelfth day divided the stock that had been making queen cells and then after a few days put them together again. Didn't think the queen could be introduced except by caging, unless it was put in as soon as the queen was taken out.

Mr. Benedict had a novel way to introduce imported queens. He drummed up the queen and destroyed it. He then took a cup of water, put in some essence of peppermint, and threw it over the swarm. When they came out of the stupor which the peppermint and water threw them into, they would accept the new queen without any trouble.

Several members took the queen to be introduced, put her in a wire cloth cage, put it in the hive and put honey around it. The bees will then come there, recognize the flavor of the honey, and soon they recognize her and accept her into the hive.

For the ensuing year, G. W. Zimmerman, of Napoleon, Ohio, was chosen President; B. B. Overmeyer, Lindsey, Ohio, Recording and J. W. Lindsey, Mitchell, Iowa, Corresponding Secretary; J. S. Hill, Mt. Healthy, Ohio, Treasurer, with a list of Vice Presidents representing various States.

Philadelphia was selected as the place and the first Wednesday of September, 1876, as the time for holding the next annual meeting.

N. E. Bee-Keepers' Association.

The sixth annual meeting of the Northeastern Bee-Keepers' Association will be held at the Stanwix House, in the city of Rome, N. Y., on the 2d and 3d of February, 1876. The first session will open promptly at 1 o'clock P. M., of the 2d. Papers of value have been promised by some of our most noted and experienced apiarists from abroad. Every effort will be made to sustain the national reputation which this Association has gained. Several members are expected to read essays or prepare addresses. Come prepared to report accurately the season's operations. We wish to know the number of stocks kept, spring and fall; condition, kind of hive, amount of honey produced, box and extracted, wax made, remarks on the value of the honey season, etc.

CAPT. J. E. HETHERINGTON,
President.
J. H. NELLIS, Secretary.

☞ "Novice" writes us that he has enlarged *Gleanings*, and that the price will be hereafter increased to $1.00, including "Our Homes." We shall still club it with THE AMERICAN BEE JOURNAL at $2.50.

☞ A. H. Hart, Appleton, Wis., writes us that he is giving Lectures on the Honey-Bee this winter. Those wishing his services can write him as above.

Correspondence.

For the American Bee Journal.

Honey-Producing Plants.

As we are constantly receiving letters from various sections of the country asking our opinion of the comparative merits of the different honey-producing plants; their value as a field crop, best mode of culture, etc., we desire to answer such questions as may be of interest to the general reader through the columns of THE AMERICAN BEE JOURNAL.

We will first mention those which are a valuable crop, aside from the honey which they produce:

Buckwheat (*polygonum fagopyrum*) succeeds best on a dry, rich, sandy loam: it is a valuable crop for family use, farm stock, poultry, etc., and will rapidly enrich the soil, if deeply plowed under while in full bloom. Its yield of honey while in bloom, which is of quite short duration, in a favorable season, compares well with any plant with which we are acquainted, but it is of very inferior quality both in taste and color. The seed should be sown in June, broadcast, using 3 to 5 pecks per acre.

The *pure* silver hull buckwheat is a very productive and quite early sort; but we have not tested it sufficiently to justify us in speaking of its honey-producing qualities.

Chinese mustard (*Sinapsis Chinensis*) is about as well adapted to the wants of the bee-keeping farmer as any plant can well be. It is well adapted to most soils, and does not seem to be affected by atmospheric changes. Prof. J. P. Kirtland says of it in "Gleanings" (Vol. III., page 18): "In my belief the true Chinese mustard holds out the best prospects for this purpose (profitable cultivation, C. F. S.) of any plant at present known. * * * It produces more than double the quantity of flowers and seed than either the black or white mustard; the species usually cultivated in this State, the last named is too frequently sent out from our seed stores as the Chinese. If patches of ground be sown at suitable intervals of time from early spring till near the close of summer, our bees will be constantly occupied in collecting honey during those periods when they are usually idle for the want of such supplies as will be thus furnished. The seed of this kind is peculiarly adapted for grinding into the popular condiment, always commands a ready sale and good price, and will insure sufficient income to repay for its cultivation."

It is highly prized, when young, as a salad, or as greens; the seed is also eaten by poultry. The honey which it produces is of a very beautiful light yellow color, is of fine flavor, and always commands the highest market price. It may be sown *very* early in the spring in *shallow drills* wide enough for the cultivator, using six to ten pounds per acre; or broadcast, using 15 to 25 lbs. per acre. For seed it should not be sown later than the 1st of July. When ripe it does not shell out by the wind, and may be harvested at leisure.

Common mustard (*Sinapis Nigra*), is a valuable bee-plant, cultivated to some extent for its seed; but it is a bad weed.

Rape (*Brassica Napus Oleifera*. Fr. *Colza*. Ger. *Raps*) is an important plant both as a bee-plant and field crop; and is so well known that no description from us is needed.

Sunflower (*Helianthus*) has deservedly received much attention during the past few years, for indeed it is as useful a crop as a farmer can raise; the leaves producing an enormous quantity of nutritious forage for stock; and the seeds are eagerly devoured by all kinds of poultry, hogs, etc. They also have a real commercial value, being used in the manufacture of vegetable oil. It yields a large amount of beautiful yellow honey.

Alsike clover (*Trifolium hybridum*) and white clover (*T. repens*) have each been so often described, that we will not occupy your valuable space to reiterate what is already well known.

Lucerne or French clover (*Medicago saliva*) is one of the best kinds for sandy soil —it is notable for its long tap roots, which penetrate the soil to a great depth, rendering it capable of withstanding a severe drought, and causing a prodigous growth of fine food for stock, and it is one of the most productive forage plants that can be grown on the above kind of soil, and it is suitable for soiling. Sow seed in the spring using about 8 lbs. per acre. As a bee-plant it is nearly equal to Alsike clover.

Italian or scarlet treefoil (*T. incarnatum*) introduced from Italy, where it is extensively grown; also in France it is a profitable crop. Its flowers are produced in long heads of bright scarlet and are sought for by the bees from morning until night. We recommend this variety for trial to our brother bee-keepers. For a crop it should be sown the same as Alsike clover, for soiling during summer; using from 6 to 10 lbs. per acre.

Yellow treefoil clover (*Medicago Lupulina*) is very prolific and perfectly hardy; it grows very rank and produces honey during our severest droughts. Sow in spring 7 lbs. per acre.

Esparcette or sainfoin (*Hedysarum Onobrychis*). This plant is an acquisition alike to the stock raiser and bee-keeper, and though usually classed with the clovers, it is a leguminous plant. Its roots, which

are large, hard and woody, remain in full vigor for a great number of years, thus producing annually an enormous quantity of fine honey and forage. It is particularly recommended for feeding milch cows, sheep, etc.

Vetches or tares (*Vicia Saliva*). This species of the pea is grown extensively in Canada and England, where it is highly prized for green fodder, soiling, pasturage or as hay; being relished by all kinds of domestic stock. Its flowers are beautifully variegated, and are a favorite resort for the busy little bees. Sow broadcast in the spring, using about one bushel of seed for an acre of ground, or it may be sown in drills the same as field peas.

Borage (*Borago Officinalis*, Ger. *Surkenkraut*) though it may not be fully entitled to be cultivated as a field crop alone, yet it certainly deserves a place in every garden. In Europe, it is considered a valuable vegetable, and is to be found in almost every garden. The value of borage is thus spoken of in the *English Mechanic*: "The large leaves and tender stalks dipped in butter and fried make an excellent and savory dish. The brilliant blue flowers are very pretty as a garnish for salads. * * The young leaves boiled are a good substitute for spinach; or if dressed with hot butter and grated cheese an excellent and new vegetable. The plant contains a certain amount of saltpetre, as may be proved by burning a dried leaf. For this reason it is used with great benefit, for the relief of sore throat. The root is rich in gum, and if boiled yields a mucilagenous emulsion excellent for irritations of the throat and chest. Very violent attacks of toothache, where the nerve has taken cold, are often cured by holding a portion of the leaves, previously boiled in milk and applied warm in the mouth against the affected tooth. Lastly, bees are extremely fond of borage and it appears to repay them well for their attention."

Mignonette, Parsons' new white (*Reseda Odorata Eximia*). Too much cannot well be said of the value of this beautiful plant to those who are raising but a few stocks of bees. Kidder speaks thus of the value of mignonette in his "Secrets of Bee-keeping," page 59: "If cultivated to that extent that it might or ought to be, would certainly furnish a rich pasturage for bees; it blooms from June until the autumnal frost. A small patch of this will perfume the air for quite a distance; and were it cultivated by acres, for bee pasturage alone, we should be favored with a fragrant atmosphere that would vie with the spicy breezes of Ceylon, and a honey that would outdo the famed honey of Hymettus for aromatic flavor."

It blossoms *in* the latter part of June and continues in bloom until cold weather (heavy frosts do not injure it), and indeed we are informed by our Southern friends that with them it continues in full bloom during the winter. There are many other new varieties, but we think they are inferior for field culture, as is also the common dwarf sort (*Reseda Odorata*). The seeds, which are very small, should be sown in the spring; sowing thinly and covering lightly, in drills at least three feet apart.

Alyssum or rock madwort (*steinkraut*) is of but little value, except as *early* bee pasturage. The dandelion furnishes a rich pasturage for bees very early in the spring; scatter the seed in your pastures; it will do no harm, as all kinds of domestic stock will eat it, and in a year or two you will have a rich feast for your bees.

Yellow and white Bokhara clover (*Melilotus lencantha and M. albus altisonus*) are most excellent honey-producing plants, but they are a great nuisance to growing crops, and should not be allowed to spread too much where they are not desired. However, they are well adapted for sowing on barren hills, steep hillsides and broken ground generally, where it is not desirable for cultivating grain.

Catnip (*Nepeta Cataria*) and motherwort (*Leonurus Cardicia*). Bee-keepers should not cut down nor destroy these plants, but increase their number, as being the very best honey-producing plants that can be grown. It will pay well, where land is not too high, to grow acres of these plants. They are both biennials, but if sowed early and well cultivated, they will bloom quite freely the first summer. The honey which they produce always commands the highest price in either country or city. The seed can be sown in a seed bed, and the plants transplanted during the first summer into drills, or they may be sowed broadcast or in drills where they are to remain; but the rank weeds must be kept down. It is a good plan to scatter the seed in stone piles along fences and other waste places about the farm; it is not a bad weed.

Monarda punctata is valuable for bees, but it is difficult to grow it except on sandy or gravelly land.

Partridge pea and Rocky Mountain bee-plant, we have not tested sufficiently to recommend.

Basswood or linden (*Tilia Americana*) and tulip, whitewood or poplar (*Liriodendron Tulipifera*) are worthy alone for cultivation, either for their timber or as an ornamental shade tree. They are rapid and thrifty growers, easily transplanted, and will live for hundreds of years, and are the most *valuable* monument that a man can build for future generations. Were our public roads, parks, dwellings, etc., planted with these trees, what a boon it would be to all engaged in this interesting pursuit. A good way to introduce them in a neighborhood is to furnish

your neighbors the desired quantity on condition that if they grow them successfully they have them free; but if they neglect them and let them die, they to pay you cost price. The seeds are to be sown in drills, and cultivated one year, then transplanted, setting from 8 to 14 feet apart each way. The seed will also grow if strewn among timber, along fences, etc.

The Wild China is also a good honey-yielding tree, nearly or quite equal to the above; but we do not think it will stand our severe winters.

We will answer questions concerning plants in the best way we can, if correspondents will remember to enclose the necessary postage.

We are aware that some of the above remarks are at variance with the opinion of some of our brother bee-keepers, but they will please remember that the atmosphere and climate at times change even our most reliable honey-producing plants and trees. C. F. LANE.

Koshkonong, Wis.

For the American Bee Journal.

What is the Cause of it?

Mr. NEWMAN: After traveling for two years and visiting many experienced and professional bee-keepers, and listened to their reports in reference to their success, I have come to the conclusion that there is much yet to be learned before bee-keeping will be made a success. A majority give an unfavorable report, saying, "My bees are not doing as well as they did some four years past."

That being true there must be something wrong. The question arises: What has been the cause of such a general failure? Have the bees lost their instinct? Have they been indolent and lazy? Have they lost their desire to propagate their young and to lay up stores for future use? Has nature failed to supply the blossoms with nectar? Certainly not! There may be a difference in the seasons, but not so great as to make a failure, if properly cared for. It cannot be supposed that such a change has been brought about. The many different hives that have been made; the new theories that have been introduced, and the management they have received, do not give much credit in favor of improvement. The convenience of the hive and the manner they are attended has much to do with their success. The lack of knowledge, the management and the many humbugs put on the people here caused them to become disgusted and discouraged.

Many hives, got up by inexperienced bee-keepers, are no more fit for bees than for a hog trough, and all you can say about them is that they are different from some other hive. I have examined a great variety; some have real merit, while many others are entirely worthless, except for hens to nest in, or for store boxes. The majority of hives are so constructed that it is impossible to discover any superior advantages.

A bee-hive should be constructed so as to cover all the wants and necessities of the honey-bee, and also be convenient to handle; fully adapted to their nature and habits. Such a hive cannot be got up without a thorough knowledge of everything that appertains to the honey-bee. There are so many things to be brought entirely under the control of the keepers, that it requires much thought and long experience to be able to consolidate and construct into one hive or bee-house the convenience and advantages necessary to make bee-keeping scientific and practicable. A scientific bee-hive alone will not insure success. But knowledge, with good judgment and common sense, and the right management, will do so in due time. When these qualifications are all combined, then we may look for improvement in bee culture. It is not a haphazard business. No business requires more perfect management than bee-keeping. *Lucky* bee-keeping will soon pass away, and those who keep bees will discard all such bigoted notions (still in existence), that if a colony lose their queen you must hang a "fippenny bit" or a dead queen in the top of the hive to cause them to choose another; that when you sell bees you must not take money, but a sheep; that when a member of the family die, you must go, and rap on the hive, and say to them, some one is dead, or they will die out; that you must clean out the hive on the 22d day of February to prevent the moth from entering; to move them on the 16th day of March one inch to have good luck; that you must not sell your bees, but a neighbor may come and steal them; that you must tap on the outside and whistle, to call them in when they swarm; that you must ring bells and rap on tin pans to prevent them from going away.

Many of these hobgoblin yarns are still in vogue and must be discarded; knowledge must take the place of ignorance, and every farmer should inform himself as much in reference to bee-keeping as agriculture or stock-raising. A few colonies of bees will always pay good profits on any farm. They, like other creatures, need care and attention; were created for man's benefit, and are deserving protection. They are a self-supporting community, and yield more profit than any creature kept on the farm. They not only feed and support themselves, but with good management will assist to furnish the poor man's table, and help to clothe his children and build him a comfortable home. They require good management and a house adapted to their necessities. They are creatures of habit, and every-

thing connected with their surroundings should be in accordance with their nature and instinct; they should be protected from the heat in the summer and cold in the winter; an even temperature should be kept as much as possible, that they may be at all times in a prosperous condition.

Bees should never be divided or allowed to swarm, so as to reduce the animal heat or weaken materially their working capacity during the honey harvest. The hive should be so constructed that the new colonies will be composed of young bees, too young to go to the field to labor, and if placed in proper condition with necessary material, will rear themselves a young queen, that will be matured and prepared to deposit eggs as soon as they are needed in the new colony. Dividing and swarming, as now conducted, is the cause of more loss than the cold winters. Making two poor swarms out of one good one is not judicious management. In your next number I will explain how I manage my bees. EDGAR.

For the American Bee Journal.

House Apiary.

The article entitled "The Apiary House Question," on page 12, last month's JOURNAL—if it means anything—is intended to convey the impression that "Novice" is in no way indebted to me for any knowledge he has of the House Apiary method of bee culture. Those who have read the AMERICAN BEE JOURNAL and "*Gleanings*" the past six months—particularly what has been said by "Novice" in "*Gleanings*," could not have failed to receive the impression that he wishes it to be understood that the system owes its origin and development thus far to himself.

Indeed, I am credibly informed that one of our most prominent bee-keepers, a man who has an utter disgust for anything mean, having a knowledge of the facts in the case, advised "Novice" as a friend to abandon his unwarranted pretensions, and give honor to whom honor is due. Previous to the appearance of my article in the AMERICAN BEE JOURNAL of May last—written in haste from Toledo, Ohio, and published by you without my solicitation—the House Apiary question had not been generally discussed, and very little was known regarding it.

In 1866, having then kept bees for many years and having learned, by experience, the precarious nature of the business as usually carried on, I was led to seek for "some better way," and after giving the matter a good deal of careful thought, I drew my first plan of a House Apiary—which was octagon. After changing and modifying my plans many times, and after innumerable experiments, I submitted the matter to Doctor Kirtland, of Cleveland, Ohio, whom I knew to be a thoroughly practical and scientific bee-keeper. The Dr. was rather favorably impressed with the system and advised me to get it patented. But wishing to test it still further and make any necessary modification in the plans, I filed a caveat in the Patent Office in order to secure the matter. This was in 1869 and I did not procure letters patent till January, 1875. Then wishing to have the system thoroughly tested by disinterested persons, before offering it for sale, I made arrangements to erect "trial Apiaries" in different parts of the country; particularly desiring to have it tested by the Agricultural Colleges of the various States.

In carrying out this plan, I built one last April in Wooster, Ohio, and that place being near Medina, the residence of "Novice," I wrote him enclosing a description of my apiary and invited him to come over and examine it, and if favorably impressed, make some arrangement to give it a practical test. "Novice" being the publisher of a bee paper and withal, a champion humbug extinguisher, I very naturally concluded that he would give the thing a pretty severe test, and that the interests of bee-keepers would be quite safe in his hands. His answer, which is copied below, shows very clearly I think, that up to that time at least, he had no well-defined notions of a House Apiary.

COPY OF MR. ROOT'S LETTER.

"MEDINA, OHIO, April 30, 1875.

I have read and re-read paper sent, and would be very glad indeed, to think it even possible that bees could be kept in such a house as you allude to. I have been experimenting considerably in that same direction and am driven to one of two conclusions, *viz.:* that you have not tested the plan fully or that you are willfully misrepresenting, and that my time and money would be lost in making the trip. However, I am open to conviction. If you can come and see me or pay the expense of such a trip, I will carefully examine the matter. You know best what you can afford.

Signed, A. I. ROOT."

In the course of three weeks I visited Mr. Root, taking a model of the Apiary with me, and explained the whole matter to him, as minutely as possible. But as a House Apiary is one of those things which cannot be fully understood or appreciated without seeing it in operation, I renewed my invitation to him to visit the house at Wooster, which he accepted and came over the following week. He seemed quite charmed with the House, calling it a "perfect gem"; said it was far ahead of what he expected, even after he had examined the model and had my description of it, and that the system was an entirely novel one to him.

In Gleanings for last month, page 7, "Novice" says "he is not able to discover anything in Coe's House Apiary that has not been in use." Now, I am heartily sorry that he said so; not that it will injure me in the least, but for his sake.

It may oblige me to be personal. For the present, however, I will only suggest that he takes for his next month's Scripture text: Matt. VII: 12—"Therefore, all things whatsoever ye would that men should do to you, do ye even so to them." He also says, same page: "In the AMERICAN BEE JOURNAL, for Nov., M. J. Stibbs makes quite an error when she states that we received the necessary instructions for building our house apiary of Mr. Coe—*her brother*. Mr. Coe gave us no instructions, but on the contrary, ridiculed our idea of two-inch auger holes and dispensing with ventilators; our building was made for another purpose years ago, as our readers are aware, and there can be no possible need of buying a patent to build such a one as ours." We give this as a *companion piece* to "Novice's" letter of April 30, 1875, copied above. They belong together—one serves to explain the other.

It may be necessary to refer to this matter at some future time.

If the "House Apiary" proves to be a blessing to the world, I have my reward. If it results in a failure, no one but myself will lose a farthing by it.

J. S. COE.

Montclair, N. J., Jan. 15, 1876.

"Scientific" Talks to Farmers.

Our friend, "SCIENTIFIC," talks to the farmers of New York in the Washington County *Post*, as follows, on the subject of "What Shall we Farmers do Next?"

For several years we have been engaged in a specialty in connection with farming, that we find both pleasant and profitable. In comparison with the more extensive fields of labor, in which the great mass of our agriculturists are employed, we would hold up the art of bee culture and the production of honey as second to none in point of profit, for the capital invested.

We do not expect every one will choose this pursuit, for this species of stock is possessed of many sharp points of character, intensely disagreeable to sensitive persons; but to those who can listen to their quiet music without plunging head first into the nearest brush heap, we would advance a few facts for consideration.

If we invest five dollars for a swarms of bees they should produce at the lowest estimate twenty pounds of box honey, which is, at the usual rate of twenty-five cents per pound—$5. We have here doubled upon the capital invested, and not counted upon the increase of a young swarm worth another $5. These results can be accomplished with the old-fashioned box hive which our grandfathers used. But we find that bee keeping, like all other pursuits, has kept pace in improvements with all the other industries of the age. Instead of the old box hive we now have the movable comb bee hive which admits of the examination of every comb in the hive, the queen bee can be removed and replaced by another, or young queens can be reared at pleasure—in fact, we have complete control of the interior workings of the hive. We also have the honey-emptying machine with which any comb in the hive can be filled with honey, and be removed, and the honey thrown out without injury to the comb, the comb to be re-filled by the bees. This process can be followed as long as the honey season lasts.

Instead of allowing our new swarms to come off and fly away to the woods, we now make swarms when we get ready, and have our queen nurseries in which our young queens are hatched and given swarms as needed. Our stock has also been improved by the importation of Italian bees from Italy, and our queen breeders send these royal insects in small wire cages to all parts of the country. It will therefore be observed that in starting in this business a small or large amount of capital can be employed. An apiary with all the modern improvements would cost several hundred or thousand dollars, according to the number of swarms, and the income accordingly great. We now have frequent instances of whole apiaries of a hundred swarms yielding one hundred pounds of box honey per hive, or two and three hundred pounds to the hive when the honey emptying machine is used.

Should we desire to make our profits from the sale of colonies, the method of making artificial swarms presents a rapid means of increase. Ten or more swarms can be made from one in a single season, but no surplus honey will be obtained.

We do not make these statements in relation to bee-keeping in order to excite expectations of large gains and rich rewards to every one who takes up this fascinating pursuit, for there are many discouragements in this business, and quite as many foes to contend with as in any other occupation; but to persons who desire to study the peculiar habits of one of the most interesting and industrious insects by which man is surrounded, this branch of human industry presents not only a pleasant but profitable field of research. While there are but few who are naturally adapted to make this pursuit their exclusive occupation, there are but few who could not keep a few swarms to supply their table with a healthful luxury, and, perhaps, find it also a profitable adjunct to their other business.

At this time, when we hear so much about women's rights and new fields of

labor for women, here is an occupation admirably adapted to the strength and acute intelligence of the female sex; and there are many in various portions of our land who are making large incomes from this source alone, and we are confident that there are also ladies in Washington county possessing the proper qualities to become adepts in this pursuit.

Many are deterred from keeping bees from the fact that within the past few years our unusually long and severe winters have become the greatest foe to the apiarian. Whole districts where swarms were formerly kept have become almost depopulated, and now but few bee hives are seen in a day's ride through the country. It has been found, however, that this kind of stock requires to be protected from the inclemencies of the winter as well as our cattle and sheep, by keeping them in a dark, frost-proof repository, and at an equal temperature they winter with as little loss as any other class of domestic animals.

Others decline to have anything to do with bees, owing to the sharp points they carry in the end of their tails. The propensity to use this sharp point can be in a measure overcome by the use of a little smoke; but suppose we get stung occasionally—it is a sovereign remedy for the rheumatism. Therefore let no one become discouraged on this account.

Before closing, I would say that our agricultural society could do much towards developing this industry. Like many other things, it suffers from neglect at their hands, while it is worthy of a more prominent position upon their premium lists. SCIENTIFIC.

For the American Bee Journal.

Maury County (Tenn.) Meeting.

The Maury County (Tenn.) Bee-Keeper's Society, held their regular meeting in the Circuit Court room, Columbia, Tenn., on Saturday, Jan. 1, 1876. There was a full attendance.

The minutes of the last meeting were read and adopted.

Mr. J. J. Jones moved that the Secretary be authorized to receive members at any time—adopted.

Mr. David Staples, being called upon, addressed the Society about as follows:

MR. PRESIDENT AND GENTLEMEN:—I feel highly complimented on being called upon to address you on this occasion, upon the history and habits of the Honey Bee. But knowing my inability, it is not strange, nor unnatural that I should feel a degree of embarrassment. But as the vast ocean on whose bosom floats the mighty ships of commerce, is made of little drops of water; and this earth on which we tread, is composed of little grains of sand, it may not be amiss in me to cast my little drop into the ocean of science, that is now sweeping across our pleasant land.

A retrospect of the past is noble, and well becomes an enlightened mind. It is not necessary that all communications with our fellow beings, shall be cut off, because they first succeeded to this hereditary globe, and first mingled with its silent dust. In reviewing the past thick-coming fancies, and stern realities, strangely mingled, crowd upon our minds.

One moment, we wander among the crumbling epitome of ancient mythology, where we see that the Honey Bee has been the friend and companion of the white man, ever since the most remote ages in history. (I say white man, for there is a tradition among the Indians of the present day.) Whenever they see the Honey Bee among them, it is an omen that the white man is on the trail. I need not trace the chronicles, and show you how she sought the hollows of the trees, the clefts in the rocks, and the carcass of the dead lion, wherein she could bestow her loads of sacred sweets, in order that she might have not only a sufficiency for herself and young, but also an occasional treat for her friend. Let us pass by the inhumane ordeal, when lo, we behold him in the darkness of night with the brimstone match in his hand, in cold blood and unprovoked murder, and rob the little innocent, who feign would have toiled her life away for his good; had it not been for such base inhumanity.

These we did hope might not directly concern us or our countrymen. But no sooner do we tread on America's soil, no sooner see her Langstroth with his movable comb hive, than we are personally interested in its history, and commence a scientific course in apiculture. Far off on the shores of Geneva, in the year seventeen hundred and ninety-five was seen a Huber (having no doubt solved the riddle, wherein from the strong came forth sweetness.) Observing with what accuracy the little insect followed the ribs in the carcass of the dead lion, he conceived the idea of placing a bar across his hive, that he might secure straight combs, and in whatever direction he pleased.

After having lain dormont for more than a half a century, those ideas were aroused and wafted across the mountainous waves of the Atlantic, and were caught up by a Langstroth about the year eighteen hundred and fifty-one, which was the first permanent step in apiculture in America. This was the land of the log gum, and the brimstone match: and perchance one half century ago, the rude gum stood on the very ground, where these walls are now erected. The brimstone match was lighted,

and the foul murder and base robbery were committed where this candid audience is now seated. I have said the idea came, and need I tell the result. The log gum was driven from its place in the grove, was expelled from its corner in the yard, was banished from its nook in the garden; and ere long, the little relic of barbarism will be known only as among the things that were.

Having attained the perfect control of the hive, and by the importation of the Italian bee, (whose superiorty has long since been decided,) it became necessary to give the queen more room at certain seasons, wherein she could deposit her eggs. Hence sprang up (as by magic) the mel-a-pult, the honey slinger, the extractor and a vast vocabulary of names, signifying a little machine with which we are enabled to remove the honey from the combs, and return them uninjured to the hive to be refilled by the bees; thus saving much honey and labor in building new combs.

In order to attain the greatest success in apiculture, it is necessary that we should have a large supply of workers on hand to gather the harvest when it comes. (Me-thinks I hear some one say, I thought bees made honey, and why cannot they make it at one time as well as another.) No sir, bees do not make honey; but nature secretes it in the nectaries of the flowers, and bees gather it, and store it in the combs which they have made.

The honey crop in this country is sometimes cut short by excessive wet or excessive dry weather. Therefore the necessity of having a strong band of workers on hand, that they may wade in at its early appearance and take of the first fruits of the land, and should the harvest linger, you need not fear that the laborers will tire, for when there is work to do, the little busy bee is always ready.

I might go on and describe to you the different kinds of bees, such as the common black bee, the grey bee of the South, the German bee, the Italian or Liguarian bee, the Cyprian bee, the Egyptian and the Stingless bee of South America, also the various manipulations of the apiary; such as rearing queens and bees, removing honey from the combs, and placing them back in the hive to be filled again, etc. But I fear it would be monotonous, and intrude upon your time. But if any of you are sufficiently interested to come to my apiary at any time, I will show you with pleasure, what little I have learned concerning this bountiful gift of nature bestown upon us by the Great Giver of all good.

It seems like I hear some one say, "does this bee business pay?" In answer, I would say it is not unlike many other rural pursuits. Who among you would buy a fine flock of Cotswold sheep, a herd of Ayshire cows, or a good stock of Berkshire pigs, and turn them on the commons, with no care, and expect a large profit? In the same way if he buys a full colony of Italian bees, and puts them in a log-gum to take care of themselves, he may have all the profits, I do not wish to share them with him. We however have statistics from not only this State, but also from almost every State in the Union; where with proper management, it pays from 100 to 300 per cent. on the capital invested. Not only so, it is a business in which ladies can engage as well as men, and I believe some of the most successful apiarists in the United States are ladies. And I would that more of the ladies in this country, who are left with small fortunes, and can hardly keep the wolf from the door, could be induced to turn their attention to the scientific keeping of a few colonies of bees.

In conclusion, let me say in the language of an eminent writer, I would not for one moment encourage any one to engage in this enterprise, without first having a taste for this rural branch. Could you see in this field of labor, a beauty, a grandeur that would give you pleasure to follow, then I would say to you as a friend, that you can make it one of the most successful occupations of the day, and would warrant you a successful future. To do this, the novice must understand to be successful he must know how to get good strong stocks, and learn how to keep them so. Concerning this rural branch, we can safely say that in no other part of the world has apiculture made greater advances, than in America. The prosperity of the apicultural community has been unparalleled.

In the apicultural pursuits of this country, there is ample room for all. There is no need for jealousy. Yet we are sorry to say that selfishness has been the motto of some. The more enlightened we become as honest men in apiculture, the more we rejoice to see all indications of improvement advance.

There may be a few Judases in our camp, but we speak as a whole, each endeavors to stimulate his brother apiarists by his own success. By this means, there is generally among them a fraternal feeling. There is a great pleasure in this —one that we need feel proud of. It produces in social life a feature so lovely, so elevating that it opens a way by which we may be better prepared to understand the beauties of nature. Much of the progress which has been attained in our country, is the result of individual enterprise. It has, however, been aided by the press, today, we are marching on to victory. Our course has been one of onward movements, although there has been a neglect in this country to cultivate a taste for apiculture, from the fact that the whole subject has been generally viewed with in-

difference, and in some places we are sorry to say treated with disdain. Yet, let every adept in the science teach the right, the true, the practiful method of successful bee-keeping, and ignorance, and superstition will be driven from the land. And then in connection with the rearing of cows, sheep, pigs and other agricultural pursuits, for which this country is so beautifully adapted, we may expect the good promise given to our forefathers of old, truly verified: "Thou shalt inherit a land flowing with milk and honey."

The question set for discussion, viz.: Mode, objects and results of feeding, and queen rearing was then taken up.

Mr. S. D. McLean said there were various methods of feeding, and two kinds of food, viz.: liquid and pollen food. Bees when rearing young required a great deal of pollen and honey. Some fed them sweet liquids by suspending it in the hive, or placing it out in the open air. The best plan, he thought, was to feed in the hive, regarded unbolted rye meal the best food for pollen. The object of feeding is to stimulate the queens, and make strong colonies, thereby securing plenty of combs and honey. His mode of feeding was by inverting a vessel on a plate, and setting it on top of the frames, allowing it to run out in just sufficient quantity for the bees to get around, and take it up. The result of feeding, he found to be very beneficial. When bees were gathering honey the queen would be found to be laying. It should be kept up when commenced, for if the supply was cut off the brood would die. Had noticed in the last few days that his bees entered his kitchen for meal. Advised that bees be fed now, thought about the first of February, the best time to feed. On examining his hives found that his queens were laying now.

J. J. Jones.—Will Mr. McLean please state why he considers rye meal the best food for pollen?

S D. McLean.—Because they partake of it more readily, and it nearer resembles pollen.

J. J. Jones.—My bees have been feeding on corn meal, and it has kept them out of mischief; did not know why rye meal was the best; have never heard or read of any reason being given. He thought it probable that it was recommended because in some sections it was more convenient and cheaper.

Dr. Staples.—I think Mr. McLean is correct. If the matter of feeding be tested, thought it would be found that those that were fed would be found much more active during the honey season. There were many things in nature we could not explain. He had observed his bees working in sawdust. The reason they preferred rye meal, he supposed, was because they knew what was best for them.

S. D. McLean.—Put rye and corn meal both out, side by side and they would take, the rye, and leave the corn meal.

C. C Vaughn.—Had put them both out together. Thought they took most readily of the one they first lit upon.

Mr. Caskey.—Thought if they took anything more readily or better than corn meal, it would be an injury. Supposed they took the rye in preference, because it was much richer. He proportioned his liquid food of one part water to three of sugar. This he poured into an empty rack of comb. Regarded comb as the best feeder. One rack of comb, filled, was sufficient to feed a large colony of bees. By this mode of feeding there was no danger of having bees drowned. His experience was that those which had been fed are more active, and go earlier and more readily to work.

Mr. Staples asked Mr. Caskey why he fed his bees at all.

Mr. Caskey.—That they may nourish their brood. The feeding of syrup stimulates the queen to laying, and unless fed, the brood would die. Also fed at other times to keep his bees from starving. He objected to feeding strong colonies, for the purpose of stimulating them, until February.

Mr. Jones thought Mr. Caskey's mode of feeding objectionable, as it would induce robbery. His mode was to construct a feeder of canvass in a frame, of his hive, into which he poured his syrup.

Mr. McLean.—If bees had plenty of uncapped honey he did not think it worth while to feed them. It would be found that the queens of weak colonies would be the last to commence laying.

Mr. Jones.—It matters not if the hives are full of honey, if the crop is suddenly cut short, the queen will stop laying.

Mr. McLean.—Queens are laying now, and there is nothing for them to gather at this time.

Mr. Caskey.—Weak colonies will not have as many eggs as strong ones, because they havn't the bees to take care of the brood.

Mr. Jones.—I have never made a practical test of the matter, but I think if two hives were experimented with, by extracting all the honey from one, and leaving the other as it is, and the honey gradually fed back to the one from which it was extracted, that they would prove during the honey-harvest to be the best workers. His bees were gathering honey now—thought it probable that it was by robbery.

Dr. Boyd thought that feeding required a great deal of judgment. Some queens were good layers, being better than others, and always had in their hives an abundance of honey. The best laying queens he regarded as dangerous, and it was necessary that they be closely watched. Did not

think there was any great difference in any of the meals, as they all contained a great deal of nutrition. They did not contain any saccharine matter, but did contain starch and gluten.

Mr. STAPLES read extracts from a manuscript which he had prepared on feeding; at the conclusion of which he stated that it might be found in full in the bee journals.

Mr. JONES.—Last spring, a year ago, moved his apiary to a new place in cold weather. Soon after it turned warm, and the bees came out, and seemed lost. Many of them entered other hives, one in particular, which caused it to be very full of bees. When the blooms put forth, and the season came for honey, he found this strong colony gathered a great deal more than any of the others. Yet they had had no feeding. The stronger the colonies the more they would gather.

Mr. STAPLES said that when feeding was commenced, it should be done regularly, and kept up until the honey season opens, but would not commence until it was approaching near enough to the honey season to keep it up, as they would start too much brood, and, by dropping it off, it would be destroyed.

The members of the society were invited to the apiary of Staples and Andrews, which was accepted, and afterwards reconsidered and postponed until the regular meeting in April.

WM. J. ANDREWS offered the following as a substitute for Article 3d of the Constitution:

"That any person can become a member of this society by a vote of two-thirds of the members present, and paying a fee of fifty cents, and signing the Constitution." The amendment was adopted.

Dr. BOYD offered the following resolution, which was adopted:

RESOLVED—That the Executive Committee inquire into the propriety of employing some one to sell the crop of honey raised by the members of this society, and report upon what terms it can be done at the next meeting.

Dr. BOYD moved that the Secretary ascertain of the members of this society the number and kind of hives they have on hand. Motion adopted.

Mr. VAUGHN moved that the Executive Committee be instructed to ascertain the best shape to have honey in, for market. Adopted.

The Secretary stated that he had been requested to have the rearing of poultry connected with the society.

Mr. STAPLES moved that we unite with the chicken men.

Mr. EVANS would favor the motion if it was so amended as to give bee questions the precedent, and added that he was very fond of *chicken meat*, but when it came to the table, could not tell the best blood from the common Dunghill. (Mr. E. is a preacher.) The motion was rejected, as it was thought it would occupy too much of the time of the society.

The Secretary moved that the question of "Queen Rearing" be postponed until the next regular meeting, and be the question for that meeting. Adopted.

The Secretary offered the following resolution, which was adopted:

RESOLVED—That the President appoint two members to write and read, at the next meeting, an essay on queen rearing and Italianizing.

The President appointed Mr. Jones and Mr. Vaughn. Mr. Jones declined, as he was not a queen breeder, and Mr. McLean, appointed in his stead.

The society then, by special request of a new beginner, briefly discussed the best hive to use, without arriving at any definite conclusion; all agreeing that it should be movable frame, containing above 2,000 cubic inches, be easily entered, and all be of one uniform pattern.

On motion, the society then adjourned to the first Saturday in April.

WM. J. ANDREWS,
Secretary and Treasurer.

Michigan Bee-Keepers' Association.

(Continued from page 25.)

JULIUS TOMLINSON read a paper on "The Diffusion of Apicultural Science." He advocated the idea of a friendly interchange of ideas and experiences, with a view to mutual benefit and the advancement of apistical science. The discussion of the subject was introduced by

Pres. BALCH—Heddon, that calls for you.

JAMES HEDDON—Mr. Tomlinson's paper contains many facts. The principles are good. Who can say aught against the glorious *principle* of communism? But such is not the system under which we live. All conventions in the different branches of business are held for the express purpose of furthering *their* interests. Why are we as *honey producers* so anxious to allure all classes of people into this "most fascinating (?) pursuit." Is it not a fact that many of us have failed to realize any profit in real production, and changing our tactics, *now* toot our horns to others about the wealth that lies beneath it, hoping to be able to furnish them with apiarian supplies? ("Send stamp for circular.") Who are the editors of our bee journals? Are they retired honey producers, and as such, capable of teaching us who are on *their* road to wealth? Or have they failed as producers and are *now* chiefly interested in hunting up those who are "in any way interested in Bees or Honey"? Does swelling the ranks of apiculturists, and the conscquent increase of production, have a tendency to further

the interests of those who are already struggling in the business? And is it a blessing to the new recruits to be allured into as precarious and uncertain a pursuit as ours? Where are the fortunes that Langstroth and Quinby should have made, possessing the *best* ideas of to-day twenty years ago, with no bee-disease to annually decimate the ranks of "bee-dom"?

The interests of the publishers of the bee-journals are in direct antagonism to our own as honey producers, as is evidenced by Novice's refusal to publish my article which was only a fair and candid consideration of this subject, and written for the purpose of correcting a few of his mis-statements. I intended to have read said article here to-day, but inadvertently left it at home.

(The article Mr. Heddon alluded to is as follows.—*Sec.*)

THE OTHER SIDE OF BEE-CULTURE.

Friend Novice:—I was not a little surprised at finding my "refused" article had crept into *Gleanings* after all. If you take the privilege of copying my articles from other papers, and commenting upon them, you will no doubt allow me room in your columns for a candid honest reply. Please remember the shield that was red on one side and white on the other, and at least give us credit for honesty even if we do differ from you. Let us see if the article referred to is such an exaggeration or not.

Novice, you quote the price of good extracted honey at 16c. to 18c. and 20c. per pound. Why does one of our best posted apiarians peddle out 3,000 lbs. of extracted honey at $1 per gallon? The party I have in mind is a "travelling man" a part of the year and knows more about honey markets than the next one hundred bee-keepers you will meet. Why does Mr. C. O. Perrine reply to offers that he "does not want to buy honey at any price" because it is such a drug on the market, that there is not half the usual sale for it? If this is a "honey buyer's" dodge, why did this same "honey buyer" advertise *for* honey but a few years ago? What have we got to-day to warrant better success in the future than in the past? Hope? How much money or bees would any of us have if we had sold all of our honey in past years at the prices given by Mr. McMaster in "Honey Column" in your October No.? I infer from some of your past insinuations, that you class me with the "honey buyers." If so, what of my offer in "Honey Column" for October. If you don't believe me a "honey *seller*," just send me down an order for this small lot.

What a foolish man Adam Grimm must be to *sell* his bees, when these "swamps of Michigan" are open to him and he knows the bees *here* will pay all he asks for them in "just four months." Who hived the swarms from those bees that were "visited only once in one or two weeks?" My bees will sometimes swarm in less than "one or two" *days*. If bees and honey are worth *so much*, pray tell us why I cannot sell the bees and honey you have advertised for me. I never sold a pound of honey to any party who had ever heard of your "honey column."

"MORAL."

About fifteen years ago, near Vandalia, Mich., out of over five hundred colonies of bees that came out strong in the spring, forty-five out of every fifty starved during the *summer and fall*, and that too, in spite of feeding and keeping them alive for nearly sixty days in some cases. One careful apiarian fed until he could afford it no longer and then lost all but two out of about one hundred colonies.

The comb honey I offered in your "honey column" for October, is in these same "section frames" weighing about three pounds each, and why don't they "sell at sight"? The northern part of our State (Mich.) has yielded beyond a precedent the past season, and of course all eyes are turned toward that locality. Can't see New York *now*. People were looking *there* a year ago. To conclude, I will make this prediction, and time will show who is right, and who is wrong. In the future not much extracted honey will be taken, at least for eating purposes, I mean for table use. Comb honey in fancy shape will be the bulk of the production. The price will range from 15c. to 18c. per pound, *net*, for choice comb, and from 6c. to 8c. for extracted. Very little extracted honey will be produced when apiarians learn how to get just about as much surplus comb honey from their bees, as can be taken in liquid form, and also when they learn, that in an apiary properly arranged and manipulated there is no need of an extractor whatsoever; and that extracted honey *will not* sell to experienced purchasers unless capped over and well "ripened" before taken from the combs. The prices given above are subject to war, inflation and panics.

I have written the above in all candor and good feeling toward all my fellow bee-keepers and invite all criticisms of the same nature, and request that you, Mr. Editor, print or return this to me.

JAMES HEDDON.

Mr. Hiram Roop's reply in *Gleanings* stated that bee-keeping is *much more* profitable than farming, citing his own experience as "proof stronger than Holy Writ" in support of his assertion. But why don't Roop's farm pay? Because he neglects it in the care of bees. A farmer in my neighborhood is paying the principal and interest of a $6,000 mortgage on a farm whose area is only twenty acres in excess of Mr. Roop's. But he attends to his business.

Of course it will *never do* to dampen the ardor of the new converts, the bee-journals *must* have new subscribers, even if it be at the expense of candor, thereby working for their interest, instead of ours who support them. Apiculturists, like other business men, will only accumulate by strict economy, great energy and skill. Capital only will save those of us who are making the business a specialty. We must run larger apiaries and raise box honey, if we expect any profit. The raw, uncapped, slung honey that infests our markets, is not as toothsome as 80c. syrup. Theses views are the result of my experience and observation, but am at all times open to conviction.

In response to many inquiries from those present, the Secretary gave a detailed account of his method of securing box-honey, an epitome of which we subjoin, as follows:

I can see but one way to make bee-culture at all profitable, and that is to raise our surplus honey for market, in small glass boxes. It then, not only commands a ready sale, but a fair price also, which *cannot* be said of honey in any other shape. The boxes should have, at least, two glass sides, comb-guides, and abundance of room at bottom for ingress and egress of the bees. Get your bees strong in numbers by the time of the linden harvest, and then put on three boxes over centre of brood nest. When these are nearly full put on three more and keep adding until the set is complete. When the first three boxes are capped over, remove them, putting on empty boxes in the place of the full ones removed. Keep this up as long as the honey season lasts, and if the flow of nectar has been at all good, you will have no cause of complaint that bees will not store honey in glass boxes.

Dr. SOUTHARD—Would not small frames be preferable to boxes?

H. A. BURCH—Small frames possess no advantage whatever over the little boxes. Just as much honey can be procured in the boxes as in frames, while the boxes sell more readily at a better figure. Honey must be put up in fancy shape to sell at all well in the city markets in the future. It is also less work to manipulate boxes, but requires some skill to get the bees to fill them rapidly, as in fact is the case with any surplus receptacle.

Pres. BALCH—I understand you consider the extractor is an unnecessary adjunct of an apiary during the storing season, when run to box-honey. Please tell us how you keep the Italians from clogging up the brood chamber with honey.

H. A. BURCH—I do consider that extracting the brood combs during a honey harvest, is a most useless operation. As well might we call such an apiarian skillful as the general who had made no preparations for an attack until the enemy was upon him. To obviate all trouble in this respect, I want a queen of the capacity and disposition to lay 3,000 eggs per day during the entire working season in a hive of 1,400 cubic inches, so that she can deposit only 1,500 eggs as a daily average. The only time I would ever use the extractor would be to remove all over twenty pounds of honey that such hives might contain on the first day of May; then get your hive full of brood *before* the honey harvest comes and your queen will keep it so. In such hives thus manipulated, the bees will have abundance of brood below and will store the honey above in the little boxes.

As the time allotted to the afternoon session had expired the Convention adjourned until evening.

EVENING SESSION.

The Convention was called to order at 8 o'clock, President Balch in the chair. He expressed the opinion that it would be preferable to hold a short session, and devote the balance of the evening to social intercourse. The Secretary thought the social element of our gatherings should receive more attention, inasmuch as it was an essential feature—one that was more fully appreciated by those in attendance than any other. Our personal intercourse with each other will result in pleasant memories that will be cherished long after all else shall have been forgotten. After remarks from others, all concurring in the sentiments expressed above, President Balch's suggestion was concurred in.

JAMES HEDDON read Mr. Langstroth's patent claims, interspersing the reading with remarks to show that the admitted requisites of the best features of movable combs to-day are embodied in Mr. L.'s claims. The shallow frame and lateral movement of the same, slotted honey-board and air space between it and the top bar of the frames, and a small brood chamber, are all essential to an easy and rapid manipulation, and the best success in securing box-honey.

Dr. W. B. SOUTHARD—I understand that Mr. Stray has been experimenting largely during the past season with a view of securing all straight worker comb. Will he please give us the result?

GEO. STRAY—To secure all straight worker combs has been to me a long-sought desideratum; but not until the past season have I been entirely successful. My method for securing this most desirable result is as follows: Remove all the capped brood from the hive, leaving but two combs, which should contain eggs and larvæ. These are placed in the centre of the hive with an empty frame between them. As soon as this frame is

filled with comb, place it on the outside and insert another empty frame. Continue the operation until the hive is full of comb. By this plan combs are built very rapidly, the queen will fill them with eggs as fast as built, and you obviate the building of drone-comb. Swarms thus treated soon become as populous as they were before any brood was removed.

Pres. BALCH—What do you do with the removed brood and combs?

GEO. STRAY—Place them with a few adhering bees in an empty hive, give them a queen cell, and you have another swarm. Last winter I lost all but one of 73 colonies. Purchased 12 in the spring—had one stolen—so I commenced the season with 12 stocks, not in good condition. Have covered all my combs, had 272 combs built—all straight and no drone-comb—have now 112 stocks in splendid condition, and secured 400 lbs extracted honey. I attribute my success to my method of management. No other plan I have ever tested would have give such good results. I find that small hives, 1,200 to 1,500 cubic inches available comb space in the brood chamber, are much the most profitable.

Pres. BALCH—Stated that the Convention would proceed to the election of officers for the ensuing year, which resulted as follows:

President—Arad C. Balch, Kalamazoo.

Vice-President — James Heddon, Dowagiac.

Secretary — Herbert A. Burch, South Haven.

Treasurer—Julius Tomlinson, Allegan.

The first ballot for the office of President resulted in a tie between A. C. Balch and James Heddon. The remaining ballots were unanimous in favor of the persons elected to fill the several positions. The subject of adjournment was then considered. Considerable discussion ensued, a large majority expressing the belief that Kalamazoo was the most central point of the bee-keeping interest, and therefore the most eligible point for our conventions. It was finally agreed upon to hold a spring session in Kalamazoo on the first Wednesday of May, 1876. The Convention then adjourned until 9 o'clock A. M. to-morrow.

MORNING SESSION.

The Convention was called to order at 9½ o'clock, with a good attendance, President Balch in the chair. The programme of the morning session was immediately taken up, by the Secretary's reading of a paper on "Queen Rearing," from George Thompson, Geneva, Ill. The paper was a valuable one, portraying the necessity of more care and skill in breeding bees. The conditions necessary to a successful prosecution of the work were considered with the conclusion that we are entering upon a new era of progress in this department of bee management. A brief paper on the same subject was read by the Secretary, from James M. Marvin, St. Charles, Ill. Considerable discussion ensued, an epitome of which we give as follows:

JULIUS TOMLINSON—Mr. Thompson advances many good ideas, but does not go far enough. We should aim to breed up a profitable race of bees, a race at once prolific and industrious. Beauty is of secondary importance. We do not need to go to Italy for queens. Better queens have been reared in this country than were ever imported.

Dr. SOUTHARD—Mr. Marvin speaks of the size of bees. Does old comb effect their size?

J. H. EVERARD—I once transferred a swarm of bees from an old box-hive that had been continuously occupied for over 40 years. The combs were so thick and tough that a piece a foot square would bear my weight (160 lbs), but the bees were as large and as active as any, and such bees to winter I have never seen before nor since. I tried all sorts of experiments upon them, but they wouldn't die—always wintered well. You might drum upon the hive from January to June, but they wouldn't show a single sign of dysentery. The hive was finally burned accidentally.

JAMES HEDDON—'Twas time.

H. A. BURCH—Cremation.

JULIUS TOMLINSON—I find no perceptible difference in size of bees, whether bred in old or new comb.

Dr. SOUTHARD—I have brood combs that are 12 years old. The cells are smaller than the usual size and so are the bees

Pres. BALCH—While it is true that a hatching bee leaves a cocoon in the vacated cell, it is equally true that the bees gnaw them out, thereby preserving about the same relative size.

J. H. EVERARD—As the septum of the comb increases in thickness with age, the bees lengthen out the cells, thereby maintaining their uniform length.

Pres. BALCH—Bees will winter much better in old combs out of doors than in those more recently built. But we are wandering from the subject under discussion. Let's go back and canvass the queen topic.

JAMES HEDDON—Extra prolificness in the queen is not desirable. It is a universal law of nature that that which yields the most is of the poorest quality. The common grade cow that gives an enormous amount of milk, will not produce the quality nor quantity of butter that the little Jerseys do. Pomologists have discovered that thinning is indispensable to success in raising well developed fruit of the finest quality. So it is with bees. The strongest stocks with their extra prolific queens are by no means the most profitable. Quality,

and not quantity, of bees in a hive, is of paramount importance. The size of the hive has an important bearing on this subject. The "long idea" principle (my assistant termed it "*wrong* idea hive") of Gallup and Adair, is one of the worst of apistical delusions. Supposing that a good queen costs 25 cts. as a basis; a frame of worker comb is worth a dollar. The extra combs of a large hive are equivalent to another swarm, while a small swarm will yield much the better comparative results. The most profitable colonies I ever had were 8 frame hives, and small frames at that. This is not an isolated case in a single season but an apiary during a series of years. In the small hives, the queen will *crowd* the brood-combs and the bees *will* crowd the surplus boxes. Combs —not queens—are the basis of an apiary.

J. H. EVERARD—The trouble with friend Heddon is—he has never tried the "wrong idea hive" of Gallup and Adair.

JAMES HEDDON—I've got 32 of them at home that you can try for a quarter apiece.

Pres. BALCH—Unless we have prolific queens our success will be limited.

JAMES HEDDON—I have no objection to prolific queens whatever, but put the capacity of the hive below that of the queen and you'll push things.

Dr. SOUTHARD——Has any one using small hives ever experienced any difficulty in having extra prolific queens lay several eggs in a cell? I have often found 3 eggs in a single cell.

JAS. HEDDON—And so have I; but strange to say, never saw three bees hatch therefrom.

Pres. BALCH—If you had strong stocks would you divide them early, with a view of increasing your crop of surplus honey?

JAMES HEDDON—'Tis a fine point. Some seasons I would, others not. It all depends upon circumstances. Our seasons differ so widely that no rule can be given. When bees are strong and the honey harvest is good, they will swarm, if not divided, and thus materially lessen your amount of surplus.

Pres. BALCH—I want my queens so prolific and my stocks so strong in numbers, that they *will* swarm. Then I am sure of a goodly amount of surplus honey.

JAS. HEDDON—Are natural swarms superior to artificial ones?

Pres. BALCH—They are most decidedly so.

JAS. HEDDON—I want a queen that is prolific in proportion to the combs of a hive, and small hives will secure this. Swarms of equal strength will often present a vast difference of results. I want bees of quality—not quantity. A bee that is lightning on business is what we want.

JULIUS TOMLINSON—Please give us your plan for securing this result.

JAS. HEDDON—I have been very successful as my annual reports abundantly prove. My plan is to rear my queens from my choicest stock. By choice stock I do not mean those yellow bees that show the greatest number of rings, but the swarms that roll up the largest amount of surplus honey. The long-nosed breed of hogs that will root up the third row of potatoes through a crack in the fence will not fat; but the little chunked grass breed will do so readily. A bee that will secret wax quickly and build comb fast—which is equivalent to honey, and comb-honey in boxes represents money—is the bee for profit. I prefer the Italians for their longer life and greater peaceableness; but aim to breed the best strains of the two races.

J. H. EVERARD—When hives are crowded with brood and bees early in the season it is better to divide them, you will get more honey. Italian bees will fly farther and carry heavier loads; and should they "dwindle down" in spring, will recuperate where the blacks will not. I once had a swarm of Italians dwindle down to seven bees, and a queen that defended their hive against robbers for over 4 weeks.

Dr. SOUTHARD — That's the smallest swarm on record.

GEO. STRAY—Much of our success will depend on getting our swarms strong in numbers as early in the season as possible, to do this keep your hives adapted to the size of the colony, even if you have to contract it down to two combs. And then add combs as needed, using a division board. When the honey harvest comes your bees will be in condition to gather it.

Pres. BALCH—The best division board is a close fitting frame.

JAS. HEDDON—A comb is the best non-conductor—better than any cloth or board to retain heat, especially when the frame is tight-fitting, as Mr. Balch uses it.

GEO. STRAY—My plan has given me more satisfactory results than any other I have ever tried.

Pres. BALCH—The only objection to a tight-fitting frame is, that it is not quite so easily manipulated, but it overcomes all the objections of a loose frame. How do you dispose of your removed combs?

GEO. STRAY—Put them over on the other side of the division board, so that the bees will not be compelled to keep a lot of honey warm, when the heat is necessary for the production of brood.

JAMES HEDDON—Bees cover their brood and keep it warm. They are heat producing and retaining bodies, according to circumstances.

W. W. MILLARD—If you were to set a hen would you select the top of a brush heap that would give a constant draft of cold air, or the ground, where she could better control the temperature and keep her eggs warm? My idea is that better success may be attained by keeping your bees in a place, the size of which will correspond with the strength of the colony.

A small furnace will not keep a large room warm in a cold day. So it is with bees; and if you keep them warm they will breed faster and prosper better. By closely watching their procedure this will readly be seen.

JAS. HEDDON—The brush heap isn't a proper illustration! It would be a parallel case to inserting a hollow tube in the centre of the brood nest. Experiments have demonstrated the fact that bees are rearing brood in the spring when the outside combs are cracking with intense cold. How much heat escapes from a hive when the cover fits so poorly as to leave a large crack all around? So little that it can scarcely be detected. We theorize too much. Those swarms that are "ventilated to death" in the spring months, breed just as fast as those that are so snugly and cosily "tucked up in quilts" and the like. I remember that one spring after setting out my bees, the covers warped so badly, that I feared the consequences of so much upward ventilation, and procured a quantity of listing with which to close up the cracks. I worked with a will until the listing was exhausted, with some 10 or 12 hives that were still "all ventilation," but as I was completely tired out, thought they might get along as best they could, they couldn't any more than perish anyway. What was the result? Three that were left to shift for themselves were *just as strong and vigorous in June*, as the others.

JULIUS TOMLINSON—The contraction of hives depends altogether on circumstances. No rules can be given that will apply to all cases. Exercise care and judgment, and adapt yourself to your surroundings.

W. W. MILLARD—Related experiments of crossing different breeds of animals with a view to the development of certain desirable qualities. In breeding bees, we should aim to cultivate their comb-building and honey-storing qualities. Combine, if possible, the best characteristics of the two races.

PRES. BALCH—I have noticed one peculiarity of the blacks, that has not been alluded to—they "hang out" worse in summer than the Italians.

DR. SOUTHARD—Upward ventilation will obviate it.

J. H. EVERARD—Bees "hang out" from excessive heat and heavy combs of new honey. Have had bees winter well that were exposed to a direct current of cold air.

The Secretary then read a paper on the "Fallacies of Bee-Culture." He took the ground, that notwithstanding we had made commendable progress in scientific bee-culture, there yet remained a vast amount of empiricism and error, that passed as science; and proceeded to point out the more common and glaring fallacies. The paper elicited much comment, agreeing in the mass with the views he expressed; but as most of the ideas advanced are contained in the report of yesterday's session, the discussion is omitted.

After the transaction of business relative to the affairs of the Association, and the adoption of a motion, extending a hearty vote of thanks to those who had kindly furnished us valuable papers, the Convention adjourned to meet in Kalamazoo, on the first Wednesday of May, 1876.

We may add that the Convention was harmonious and united throughout, and that all seemed to feel amply repaid for the time, trouble and expense incurred in attending the present meeting. And thus ended one of the best and most profitable apistical gatherings of American apiculturists; a gathering that, in the opinion of many present, will mark a new era in scientific and profitable bee-culture in America; and that convening on the threshold of the first centennial of the Republic, it might prove to be an auspicious beginning of a brighter future for American apiculture, was the earnest and sincere wish of all in attendance.

HERBERT A. BURCH, *Sec'y.*

South Haven, Mich.

Voices from among the Hives.

COLUMBUS, IND.—Jan. 3, 1876.—"My bees are doing finely; they commenced to work on rye flour *Dec.* 23, and seem as anxious about it as if it were spring. The queens have all commenced to lay and I find brood in all stages, from the egg to hatched bees. This is something uncommon, to test the purity of *late hatched* queens by their worker progeny in Dec. and Jan. The temperature Jan 1, showed 78 deg. in the sun. Should the winter continue open, I expect bees (with the start they now have on brood rearing) to swarm about the time apples bloom this season."

J. M. BROOKS.

WAYNE CO., O.—Dec. 21, 1875.—"I had 10 swarms in the spring, have now 21; from one I had three, and 20 lbs of box-honey. My bees are all on their summer stands, packed around with straw, and covered to keep them dry. I had nothing but white clover and corn fields for my bees to work on this snmmer."

D. H. OGDEN.

MONMOUTH, ILL.—Jan. 1, 1876.—"I put my bees in the cellar Nov. 9. The past ten days have been unusually warm for this time of the year. Temperature out of doors 50 to 62 degrees. The past two days we have had continuous rain, and to-night I find water in the cellar 3 inches deep. Am afraid I shall have to move them out to prevent their being drowned. This is the first time since 1869 that water has come into my cellar." T. G. McGAW.

INGHAM Co., MICH.—Dec. 21, 1875.—Last winter I lost only one stock out of 45, and sold 5 more; increased the 39 left to 130; raised about 4,000 lbs. of honey."

JOHN L. DAVIS.

LYON Co., KANSAS.—Jan. 4, 1876.—"In 1874 I lost all my bees. In the spring of 1875 I bought two swarms and put into my hives that were full of comb. By the last of May I increased to ten colonies and extracted 225 lbs. of honey."

S. P. SEWERS.

MCDONOUGH Co., ILL.—Jan. 8, 1876—"I started in the spring with 40 colonies; having lost ten during the winter, caused by the long cold weather, as they were out on their summer stands. I made my loss good by artificial swarming; raising my queens from one of Dadant's imported queens, which by the way are dark enough; but very good natured and splendid workers. Bees scarcely made their living from spring until buckwheat and heart's-ease came; then they took the swarming fever and swarmed until the 10th, of Sept. About this time the flow of honey stopped, and late swarms are starving, having but little comb built. I took about 200 lbs of box honey and 100 lbs. extracted. My bees are Italians, and mostly in good condition for wintering." S. H. BLACK.

CHENANGO Co., N. Y.—Dec. 30, 1875.—"The queen Mrs. Tupper sent me is all right and very prolific. The bees are good workers and well marked. I have now twelve Italian swarms. This has been a good season for bees; mine have increased from four to fourteen, and all have plenty of honey; besides giving twenty-three six-lb. boxes of honey. We have here alder, willow, maple and fruit blossoms; then raspberry, white and alsike clover; after that comes sowed corn and buckwheat, these are plenty; but I do not consider them of much account for honey in this section."

C. A. SARGENT.

BOONE Co., ILL.—Dec. 26, 1875.—"Although it is late, yet I will send a short report of what the bees have done here this season. I took 13 stands of bees from the cellar; lost four by springing, increased to 22 and took (600) six hundred pounds of *buckwheat* honey, (Ext.) White clover in abundance, but my bees were too backward for that kind of harvest."

P. YOUNG.

FREMONT Co., IOWA.—Dec. 13, 1875.—"I cannot agree with Dr. W. B. Rush, in his letter in the December number of the JOURNAL as to success in the apiary, or his advice to "Do your swarming after the honey season is over." I think that locality should govern the case, or rather the time that we have the honey season. Where the season is early, his idea will do; but where the honey season is late, say from the middle of August until frost, I do not think that his plan will work well. My experience has been that two seasons out of three in this locality, stocks need feeding most of June. I have had a stock that on the 10th of April had honey in all of the frames, and the outside frames full and capped over, that in June I had to feed, but in the coming August and September I got 160 lbs of extracted honey from the same stock. The last season I had but little surplus honey until the middle of August, when the honey season commenced in earnest; when frost came my bees were storing a 100 lb per day; consequently if I did my swarming after the honey season was over, it would be swarming after frost, which I do not consider a good plan. While on the other hand, by dividing as soon as practicable in the spring, say the last three weeks of May and the first week of June, I then can have them built up strong by the honey season, and have twice as many bees as I would have had, if I had left swarming until after the honey season."

ED. WELLINGTON.

HAMILTON, ONTARIO.—Jan. 1st, 1876.—"The thermometer at sunrise to-day stood at 50°; at mid-day 90°—a very fine day." MYRON JOHNSON.

MONTCALM Co., MICH.—Jan. 10, 1876.—"If E. D. Godfrey will place a small box just in the rear of each hive that he wishes to remove boxes from, and place the supers from each hive in one of these small boxes, with a cloth of some kind spread over the top with one corner turned back to give space for the young bees to get out, and then take off the boxes in the forenoon only, he will find them minus bees at sundown, unless now and then a queen happens to be in the boxes; in which case you can smoke them a little and drum them out and allow her to go back into her hive with the few bees that will be with her. Bees, if they are young, stick to their treasures, if placed among strangers, and worse, if there happens to be a queen present."

HIRAM ROOP.

HANCOCK Co., W. VA.—Dec. 25, 1875.—"I commenced with 34 stands of bees last spring; increased to 50, and got but little surplus honey, on account of the heavy frost in April. All the fruit bloom was killed and also the black locust and the white clover by the dry fall and hard winter. There was but little honey in any that did bloom. This season the tulip, linn and sumac were our three best honey-plants. In ordinary seasons white clover, fruit bloom, tulip, black locust, linn and alsike clover are the best. Then we have raspberry, blackberry, smart-weed, and the three kinds of asters; golden-rod, and many others. Our main dependence is on locust, white clover and linn or bass-wood." ALFRED CHAPMAN.

KOSSUTH Co., IOWA,—NOV. 19, 1875.—My report for 1874 and 1875 shows that even in Northern Iowa bees can be kept and make a fair showing. I commenced bee-keeping in the summer of 1874 by the purchase of one colony of black bees. From this colony, 42 lbs of box-honey were taken and an increase of one colony. These two were wintered in the cellar and came out in the spring of 1875 in fair condition. In the spring of 1875, I added by purchase, two colonies, one Italian and the other black. During the season, the increase made 9 colonies, with ample stock for wintering. In addition to increase, I have taken 165 lbs of nice comb-honey in boxes and small frames. One colony of black bees gave 69 lbs. in small frames. (His stock was not divided until the last week in August.) I go into winter quarters with ten colonies; one small colony of pure Italians, purchased from Mrs. Tupper in Aug. and now at this date very strong. I prefer the Italians from the fact, they will keep their hives clear from the moth-worm, by politely showing them the way out.

RECAPITULATION.

By 10 Colonies Bees @ 10....	$100.00
" 165 lbs. Honey @ 25....	41.25
	141.25
To 4 Colonies in spring.....	$40.00
1 Pure Italian.....	12.00
Material for Hive.....	7.50
Bee Journal & Books.....	3.25
	62.75
Balance in favor of Bees.....	78.50

DAVID PATTERSON.

AURORA ILL.,—Dec. 1st, 1875.—Ten years ago I began with two swarms in a box hive, and two years later I bought six in the Langstroth hive. After using them one summer, they convinced me that I wanted no more box hives. I then bought Langstroth on the honey bee, and King's works, and in 1870 subscribed for the AMERICAN BEE JOURNAL, and I think I have read every number from that time till now, and by ten years' experience in handling bees I claim that I know something about them.

I have lost not more than three swarms through dysentery. I have never lost a swarm by their going off in swarming time. My total loss for the last ten years would not be over fifteen swarms. I always got my share of honey in honey time.

The reasons for the above are: I always take my bees into the celar when the hives are perfectly dry, before the cold weather sets in; I set three or four hives on top of each other, and put one inch strip between them and open all the holes in the honey board, and keep the room ventilated so that the thermometer stands about thirty-five degrees. In March when I take them out on their summer stands, I quilt them until about the first of May.

I always hive a new swarm as soon as they have partly settled, and give them one clean empty comb.

I always keep my stocks strong and see that they have enough honey and keep them from robbing.

Feed early in spring, to induce breeding, and I always had my share of honey in honey time. This season has been a poor one, as all the reports show, from this part of Illinois.

I had forty swarms last spring and have 56 now in my cellar. I sold three swarms and about 350 pounds of honey.

Our main honey plants are fruit blossoms, white clover, and buckwheat. From the fruit blossoms and white clover we did not get much honey this year.

JOHN DIVEKEY.

SANTA ANA, CAL.—"Myself and companion have an apiary consisting of 150 colonies of bees, in Los Angeles Co., Cal., 18 miles east of Santa Ana, and 12 miles north of San Juan, in the foot hills of the coast range of mountains. My partner located here in the fall of 1873, at which time it was the only apiary in this section. Although his bees were in the old-fashioned box hives, he had excellent success; owing no doubt to the superiority of range and mildness of climate

Others hearing of his success have concluded to try their luck in the bee business, in the same locality. We have 12 or 14 families located here who are establishing apiaries, having waited for the return of cool weather so they may remove their bees in safety from the valley. We have succeeded in transferring 150 colonies, from the old box-hives to the Langstroth, without the loss of a single one, although by some accident, we lost 4 or 5 queens; but they were soon replaced by inserting a frame of larvæ into the queenless hive. In transferring we took 13,000 lbs of first-class strained honey. My partner had taken 7,000 lbs before transferring, making in all 20,000 lbs from 150 colonies in the old box hive. We expect to have at least 200 colonies with which to commence operating in the spring. S. H. P.

SCHORARIE Co., N. Y., Jan. 5, 1876.—"I commenced last spring with 60 stocks, some very weak. I have now 88 stocks, am wintering them out-doors. They appeared to be in good order up to Dec. 31; it was warm Dec. 22d, so that they had a splendid fly. They had none before for nearly two months. I believe I would rather risk them out doors than inside, unless I have a good, warm, dry cellar, and that under a room that has fire all through the winter. Last season I wintered 15 out doors with chaff behind the frames, and on top; they came out all

right and were my best hives last season. It has not been a very good season here; the most of my honey was gathered from the golden-rod. I had 3,100 lbs of box honey in two lb boxes and 1,000 lbs extracted taken from partly filled boxes. By using one-comb boxes, I can extract all my partly filled boxes, and save the combs, but if I had boxes with two or three combs and partly filled, I would have to let the honey remain. I can get more honey in two lb boxes than in larger ones. Still it makes a great deal more work to get honey in small boxes than in large. I box my hives on the back of frames and on top. I can get the bees to work in the back boxes the same as on top. BENJ. FRANKLIN.

LENAWEE CO., MICH.—Dec. 24, 1875. - "2,000 lb of box honey all sold at 20c to 25c per lb. This is my crop for 1875." J. F. TEMPLE.

HENRY CO., IND., Dec. 27, 1875.—"I see from the reports sent to you that there was a very poor honey harvest in nearly all parts of the country. Still the markets are better supplied with extracted honey (sugar syrup) than in any previous year, and prices for comb and extracted honey range lower than for many seasons past, thus proving it to have been a good season for sugar at least. One needs now only one dozen swarms of bees to obtain as many tons of honey. It is not only disgusting, but actually discouraging, to all honest bee-keepers to see the markets flooded with the so-called 'Extracted Honey,' when the reports from all parts of the country show a very light harvest. If we have to resort to deception and fraud to make money out of our bees, we had better retire from the business. Extracted honey is a failure, and belongs to Mr. Judd's columns of humbugs.

"The outlook in bee-keeping is anything but flattering at this time. The only hopeful indications are that the people will soon see the deceptions and frauds practiced upon them by bee-keepers and honey dealers, and refuse to take a pound of their so-called 'Extracted Honey' at any price. All the space in the JOURNAL now taken up in discussing the merits of Extractors and Hives adapted to the use of them, might be more profitably employed in giving directions for obtaining box honey in quantity and good shape for market.

"From one strong stock of pure Italian bees, I last year (1874) obtained 84 lbs of box honey and two swarms of bees. The first swarm stored 12 lbs of honey in boxes. I use the two-story Langstroth hive of the form used and sold by Chas. F. Muth, of Cincinnati, Ohio. These hives contain three boxes or cases in the upper story, each case holding 8 small frames, holding, when full, 1½ lbs honey each. The only assistance the bees received from me was three or four pieces of drone comb taken from another hive and fastened in the small frames above, to give the bees a start. My other hives with ordinary boxes gave not more than half the quantity of honey." B. Y. T.

DE KALB CO., ILL.—Jan. 13, 1876.—"MR. NEWMAN: The splendid Chromo came to hand duly, and is admired by all who see it." A. STILES.

DESHA CO., ARK.—Jan. 8, 1876.—"I commenced last spring with five stands of black bees; increased to 20; took near 700 lbs. of box honey; sold surplus at 25 cents per lb. I am a beginner, and have never seen an extractor. The woods are full of wild bees; they never freeze to death here. We have linn, red sumac, white clover and catnip; besides thousands of flowers all over the woods of different kinds, from which the bees gather honey. Some of our brother bee-keepers, who think of going to California, had better look at this country before going there. This country is especially well adapted to bees and fruits, the lands are very rich and cheap. What we need is men of experience in bee culture. The winter so far has been very mild; bees have worked almost every day. Turnips were in bloom last month. THE AMERICAN BEE JOURNAL is a great help to me." JOHN HUGH MCDOWELL.

HASTINGS CO., ONT.—Dec. 22, 1875.—"Last spring I commenced with 59 hives, nearly all Italians. I have taken 5,750 lbs of extracted honey, and have increased to 100; I have 99 in winter quarters. One lost its queen, and I united it with another. I use the Thomas hive; some are very large, having 20 frames; the 16 frame hives are just as good. I extracted all the clover and basswood honey, and let them fill up with buckwheat honey, and then I divided them and gave each hive a queen. Let me tell you what one of my large hives did in ten days during basswood bloom: On July 23, I extracted all the honey, 45 lbs. On the 24th, it gained 24½ lbs; on the 25th, 30 lbs; on the 26th, 12½ lbs; on the 27th, I extracted 66 lbs. That was a windy day, and it gained only 5½ lbs. On the 28th it gained 38 lbs; and on the 29th, 22 lbs. On the 30th I extracted 70 lbs, and the same day it gained 17½ lbs; on the 31st it gained 17 lbs; Aug. 1st, it gained 4½ lbs. Total in 10 days, 171½ lbs. I had it on platform scales all the time, and weighed it every morning. W. C. WELLS.

SHERMAN, TEXAS.—Nov. 6, 1875.—"I lost 7 out of 14 colonies last winter; they have increased by natural and artificial division to 21. I had seven very weak ones in April. Cold, bleak winds kept them back until late. I got about 60 lbs. of honey and a plenty for winter. Our best honey plants are china (a wild tree),

horsemint and a vine similar to grape. Golden-rod does not produce honey every year. Aster, ratan, elms, sumac, swamp dog-wood, milk-weed, fire-weed and hundreds of other plants that produce some honey. Drouth cuts off all, at times. July, August and September ordinarily are the hardest months of the year. I think it will pay to ship south to winter. After frost in the north bees would here gather a fine harvest, and winter supplies; then in spring they would swarm, then *all* swarm again in your climate. It would not be expensive to charter a car. I have thought for several years that an apiary on the Mississippi River would pay. Winter in the orange fields of Louisiana and take the seasons up the river to Minnesota; we have a new source of pollen in September, rust, from cottonwood leaves."

M. S. KLUM.

HAMILTON, ILLINOIS, January 13, 1876. "I see that through the instrumentalities of my article on Foul Brood, I am unintentionally injuring the business of Messrs. Dadant & Son. Having dated it at Hamilton, Ill., I had thought that my address was too well known to make extra mention of it, but it seems some overlook these things. At the end I said "parties wishing to write me, will *please* notice *the change of address*. Certainly this does not imply that I had my bees here. But for the benefit of those who do not know, I will say that I lost my bees in *Berlin, Wis.* I would not for the world injure anyone by such means, although there are those who will read this, whom I well know, tried to injure *my* business, by circulating a report to the effect that my honey was poisoned, because my bees were affected with foul brood; the party pretended to be a warm friend of mine, and under that guise, obtained all information from me necessasy to start in bee-culture. Another party kindly sent a note to one of our journals stating that I and my neighbors had foul brood among our bees, but I did not let it be known. I know who it was, though not informed by the editor, and I thank him for his trouble—hope it may set his conscience at ease."

J. D. KRUSCHKE.

LENAWEE CO., MICH.—NOV. 16, 1875.—"Like many of my brother apiarists, I have kept silent for a long time waiting for a favorable report to give the public. This I could not do in the spring, as my loss in wintering was very heavy. I arranged my bees for wintering by placing them in a row fronting to the south-east; placed them eight inches apart with a tight board wall behind, eight inches from them, packed the spaces between and behind them with straw, also filled the caps with the same. Had them protected in front with a wide board to keep off the rays of the sun, when it was too cold for a flight, and covered with a board roof to keep out the rain, but after all my trouble the extreme cold of the winter was too much for them; for when the first flowers of spring came I had but nine left out of sixty, and some of those were in a very bad condition. About the first of May I bought seven colonies (one pure Italian, from which I have Italianized the most of my stock). The season has been a very favorable one, both for increase and honey. I have increased my stock to forty colonies, mostly by artificial swarming. Have received twenty-one hundred pounds of box-honey (made in the sectional honey boxes) and four hundred pounds of extracted. I use the Barker and Dicer hive and sectional honey boxes; I think these boxes are almost perfection, find I can realize from three to four cents more per pound for my honey, than by putting it up in any other way."

S. PORTER.

NOTES AND QUERIES

ANSWERS BY MRS. TUPPER.

Is Northern Colorado suitable for apiarists? Is the moth as troublesome there as here? Is it necessary to provide pasture for bees there? How about the Rocky Mountain bee plant? A. H. M.

Scottsville, Ill.

The few who are keeping bees in Northern Colorado, report excellent success. Pasturage there is abundant, and the increase of stocks rapid. No occasion as yet to plant anything there for them. The Rocky Mountain bee plant is found in most parts of Northern Colorado, and these are rich in honey. The moth will trouble you there after many bees are kept, no doubt—if you are careless—but with Italian bees and movable comb-hives, any one can, with reasonable care, be free from moths.

Is it beneficial to set bees out and let them have a fly on warm days, where they are wintered in the cellar?

ASA TEFFT.

Chatauqua Co., N. Y.

We cannot think there is any advantage in it, when bees have been properly put away, with plenty of sealed honey. If they have been fed in the cellar or house, or been excited by light or too warm quarters, to eat freely, it is best to put them out for a cleansing flight.

"Can you tell us how to prepare our boxes for surplus honey next season? We must arrange hereafter to sell comb honey—extracted honey is a drug here, and we had better have much less comb-honey than extracted, if one will sell and the other will not. Can you recommend any special form of box or hive?"

J. C.

There are several points in this question which are worthy of attention. As to extracted honey being a "drug," we think it the fault of the bee-keepers near any market, if it becomes so. Put your honey into the market in attractive form—take pains, and you can *make* a market which will improve with every year.

If you wish, you can have a good quantity of comb-honey in any form of hive, but to secure this you must have your hives *full of bees*, from the last of May until the first. It makes little difference to the bees what style of boxes you use—but the kind that sell best are the ones you want. What are called section boxes are attractive in the market, and grocers like to handle honey in them. Large boxes containing small frames, that hold about a pound of honey each, are what we can most safely recommend.

Hereafter it will be easier and more profitable to get box-honey, because the comb productions will enable us to give the bees, comb in all boxes to start on. The impression has been given that the comb foundations are not fit for surplus honey. They are being made now specially for the purpose, of the most delicate texture, and so light that a pound will go a great ways in boxes. We hope next season they can be afforded at such prices that it will pay all those who wish comb-honey to fill their frames and boxes with them. We are satisfied that if this can be done, double the quantity of honey can be obtained in boxes and frames.

In making your boxes this winter have them as light as possible. Boxes are sold with the honey, and customers want to buy as little wood for the price of honey as you can make convenient.

We shall try to show you how to manage your colonies in the spring, so that they will have the bees—without which your boxes, even if filled with nice comb foundations, must remain empty.

I purchased last fall a swarm of bees in a movable frame hive, which came off last summer. It had plenty of bees, so we capped brood with but little honey. I have fed both sugar syrup and candy.

Now I want to know, is there danger in over feeding?

Will it not do as well to feed dry coffee sugar as to feed either syrup or candy?

Brown Co., O. GEO. W. FORMAN.

You must examine the comb and see if your bees are storing too much of the syrup. If it is stimulating them to brood rearing, it is well; but if they are filling the combs and giving the queen too little room, they have too much.

Dry sugar is not as good food as syrup.

I want a good receipt for making vinegar of honey. Is there any difference between the gray and black bees? Do bees know their hive by its location or appearance? How many swarms in the American hive can I winter in a cellar room 10x14 feet? O. C. BLANCHARD.

Take one part honey to two parts water; put in some "mother," as it is called, from a vinegar barrel, if you have it—if not, a small quantity of good yeast. Keep in a warm place until sour enough.

The gray bee is apparently a distinct variety from the black bee.

Bees mark their location, not the hive. You can prove this by moving the hive even three feet away from its old place, and then watch the bees return.

Just as many as you can put in it one tier above another.

My bees swarmed while I gathered honey. I extracted 1,900 lbs from Aug. 20 to Sept. 10, and had during this time 21 natural swarms. It was a rule to "sling" every morning from 7 to 11, and get a swarm at between noon and 3 o'clock. Most swarms were 2 feet long. One swarm taken in Sept. 5 had 7 frames built on Sept. 20, with 32 lbs of honey. Could not prevent the swarming. Hives from which I took 3 and 4 boxes of honey swarmed three or four days afterwards, and all in the latter part of August and the first part of September. C. SONNE.

It seems to be reported that bees generally swarmed more than usual this year, and that greater quantities of brood were reared. We think you should have taken the queens from the hives, and thus prevented swarming until the fever was over. But it is hard to give rules for such a season as the past one has been.

American Bee Journal.

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Six subscribers, sent at the same time 9.00
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THOMAS G. NEWMAN,
196 and 198 South Clark Street, Chicago, Ill.

Our New Club Rates.

We will send one copy of THE AMERICAN BEE JOURNAL and either of the following periodicals for one year, for the prices named below:

THE AMERICAN BEE JOURNAL and Novice's Gleanings for	$2.50
King's Bee-Keeper's Magazine	3.25
Moon's Bee World	3.25
All four Bee publications	5.00
Swine and Poultry Journal	2.75
The Chicago Weekly Tribune	3 20
The " Weekly Inter-Ocean	3 20
The " Weekly Journal	3.20
The Western Rural	3.70
The Prairie Farmer	3.70
Purdy's Fruit Recorder	2.50
Voice of Masonry	4.25

☞ The annual Vegetable and Flower Seed Catalogue of Gregory, the well-known seedsman of Marblehead, Mass., is advertised in our columns. We can endorse Mr. Gregory as both honest and reliable. The bare statement of the fact that he grows so large a number of the varieties of seed he sells will be appreciated by market gardeners, and by all others who want to have their seed both fresh and true.

JOURNALS are forwarded until an explicit order is received by the publisher for their discontinuance, and until payment of all arrearages is made as required by law.

Honey Markets.

CHICAGO.—Choice white comb honey, 18@25c. Extracted, choice white, 8@13c.

CINCINNATI.—Quotations from C. F. Muth, 976 Central Avenue.

EXTRACTED HONEY IN SHIPPING ORDER.

1 lb jars (12 cases) per gross	$39 00
1 lb " (12 jars) per case	3 50
2 lb " (12 cases) per gross	72 00
2 lb " (12 jars) per case	6 50

Comb Honey, in small boxes.....25@30

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main street.

Extracted honey is only worth from 10 to 12½ cts. now in this market. Strained 7 to 9c. Good, light box honey (small sizes) from 20 to 25c. Fair demand for honey at above figures, nothing extra.

SAN FRANCISCO.—Quotations from Stearns & Smith, 423 Front street.

White, in frames, 20@22½c. Dark, 10@12c. Strained, 7@11c. Beeswax, 27@30c

☞ Some one has sent to this office, by mail, last month's JOURNAL. We expect they think this a proper notice to us to cease sending it to them. As there is no name or address of the person so sending it, how can we tell whose paper to stop? Of course we shall be roundly abused for not erasing the proper name from our list; though it is simply an impossibility, on account of the blunder of the subscriber, who should have sent us a letter or postal card instead of the number, and if there were any arrears to have enclosed enough to pay them. Such notice would receive immediate attention. Any other course is an evidence of intentional fraud.

Evergreen and Forest Tree Seedlings, Free.

The Editor of the *Evergreen*, Sturgeon Bay, Wis., informs us that he has growing upon his premises, of spontaneous seedlings large amounts of seedlings of the above of different sizes, and some ten or a dozen different varieties, which he will give away in any quantity to any person for his own planting only, by his removing them at his own expense. He will furnish full information regarding sizes, varieties, cost of removing, etc., to any person addressing him, as above, with stamp to pay return postage.

Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, MARCH, 1876. No. 3.

The Bee Queen's Temptation.

Since our last issue, MRS. ELLEN S. TUPPER, long known as a writer on bee culture, has "fallen like a star from heaven."

On the 28th of January Mrs Tupper was arrested for forgery. It appears that she has freely used the names of her relatives and friends, and in addition, forged the names of leading citizens of various cities of Iowa, from the name of the governor of the State, down; as well as the names of leading men in the Eastern States. Her forgeries will foot up somewhere from fifteen to twenty thousand dollars, and perhaps more. A correspondent of the Chicago *Tribune*, from Des Moines, under date of February 3d, says:

There have been notes and drafts to about $2,000 protested and dishonored here for want of funds in bank. What has she done with this money? She has not expended it here, as her property is incumbered by mortgages, covering it all, and collections against her have been difficult for some time. She has not expended it in living or about her premises. It is supposed she has sent the money away for some other purpose. She was arrested at State Centre, and removed to Monticello. Her daughter, Kate, went to her, and, when she arrived, she gave Kate a letter, requesting her to read it alone. It was a long letter, reviewing her struggles in life to raise her family and maintain them, and inclosed two notes, which she said, were given under circumstances that she must keep secret. One read as follows:

DES MOINES, IA., December 1, 1875.—Thirty days after date I promise to pay Mrs. Ellen S. Tupper, or bearer, the sum of $1,000, with interest at 10 per cent. per annum.

his
JESUS ✕ CHRIST.
mark.

The other was for $500, at sixty days, and drawn in the same way.

She induced the publisher of THE AMERICAN BEE JOURNAL to indorse for her to the amount of $1,000. In doing this he broke over a rule of his life,—his father having been ruined by endorsing Bank paper. But he did it out of *pure sympathy*, believing her story of embarassment caused by her sickness and being unable to attend to her apiary. She claimed that she had honey and supplies enough, which she could turn into money in 30 days to pay it, and if not, she had a mortgage on some land in O'Brien County, or something of that sort, that she could raise it on, within the time, and that we should never hear of it again. But we not only heard from it *often*, in the way of Bank protests, etc., that nearly ruined us financially—but by a very "crooked" financial practice (a sharp trick) she doubled the amount, making it $2,000. For a portion of this, we understand that suit is about to be commenced against us. Now, *sympathy* will not pay it—it must be greenbacks—to the last cent.

The editor of the Denison *Review* thus soliloquises:

"Of course she is crazy; has been ever since she began to forge. A man must commit murder, or at least, adultery; a woman must poison her husband, strangle her babe, or forge notes, before the public finds out how much good there is in them—very little attention being paid to men and women when they are honest."

Pomeroy's *Democrat* says:

"Mrs. Tupper's proverbial philososhy was to forge ahead till she gained $11,000. And now comes emotional insanity with its uplifted umbrella."

We should be glad to think it insanity, if we could—*but that is impossible.* There has been too much "method in her madness;"—her "crookedness" has been too *chronic.*

A prominent bee-keeper in New England, well known to our readers, remarks in a letter of recent date: "I don't wish to say much against Mrs. T——, but if swindling, fraud, and forgery, is any indication of insanity, she has been insane,

to my knowledge, for ten years, at least."

Letters and claims from bee-keepers, all over the country, are coming in thick and fast, claiming that we should settle with them on her account. To all such we must say: There is no more justice in asking us to settle her bills than in claiming it of the "King of the Sandwich Islands!" She never had any interest in THE AMERICAN BEE JOURNAL, and all she wrote for it was paid for, "cash in advance, at good round figures."

On February 10th, we addressed the following note to her: "MRS. ELLEN S. TUPPER, Des Moines, Iowa:—You are hereby notified that the contract made with me for your editorial services on THE AMERICAN BEE JOURNAL is this day annulled—severing your connection with that JOURNAL entirely. . . . You are, of course, well aware of the cause of this action—and I need not repeat it here."

THOMAS G. NEWMAN.

We understand she is in a very weak and nervous condition. If she is insane, her "crooked" transactions are no doubt the *cause* of it, rather than the opposite. We wish her no harm, and greatly regret the necessity for this article—but justice demands that we should speak out. Let this suffice.

THE BIENENVATER.—This is the title of a Bee Journal published at Prague, Bohemia, Europe, by Rudolf Mayerkoeffer, a good friend of the honey-bee, who writes us that there will be an International Agricultural Fair in Prague in May and June, and he is preparing for that occasion, several beautiful glass boxes with excellent honey. The Bienenvater wants to purchase Nos. 1 to 6, January to June, 1875 of the AMERICAN BEE JOURNAL. If any one has them to spare they may be sent to this office, and we will settle for them.

☞ R. S. BECKTELL, of New Buffalo, Mich., says that a neighbor of his has found a stone weighing about one pound, which looks as if it had once been a piece of comb-honey, broken and doubled over, so that it presents the cells in different shapes. Petrified honey! Well, why not?

The National Society.

The feeling seems to be general that after the Philadelphia meeting, the National Society should be abandoned. This Society appointed the 6th of September for its next meeting at Philadelphia. We think this time should be adopted for the Centennial Convention, and thus unite all interests. The President, Mr. G. W. Zimmerman, thus writes in reference to the matter:

"After holding the meeting at Philadelphia, I think the Society had better adjourn *sine die*. I would recommend that each State having no organization, should organize and meet at least twice a year. The journeys to a National Convention are long and expensive, and as we can't get railroad fares reduced now, it is burdensome. This matter was fully discussed at the convention at Toledo, and those present from Ohio organized 'The Northern Ohio Bee-Keeper's Society,' whose meetings will be duly announced."

What say the bee-keepers of the United States? Shall the National Society be abandoned or not? We hope they will speak out now, or "ever after hold their peace," on this subject, at least.

An exchange observes that it is a remarkable fact that the first month of this Centennial winter closely resembles that of 1776. The journals of that year speak of the unusual mildness of the season. It was even said that the lack of the usual ice in Boston Harbor prevented Washington from crossing his forces and attempting a surprise on the city, and the Americans were enabled to continually send forth vessels from all parts of the harbor to the West Indies for munitions of war. The mild season enabled Gen. Schuyler, in the first days of January, to dispatch his well-planned little expedition up the Mohawk Valley to surprise the Highlanders under Johnson.

BIOGRAPHICAL SKETCHES AND PORTRAITS. We commence a new idea in this issue of THE AMERICAN BEE JOURNAL,—that of publishing Biographical Sketches and portraits of some of our "bee men." Those wishing their face to appear as an introduction to the thousands of our readers, will please communicate with the

PUBLISHER.

Centennial Bee-Keepers' Convention.

The Secretary of the Centennial Commission has sent us a letter stating that there would be a special show of honey, June 20th and Nov. 1st. We wrote him that the first was too early and the latter too late, and urged that the time be changed to August or September.

We wrote several bee-keepers in different parts of the country, asking their opinion about calling such a convention —and also wrote the president of the National Convention for his opinion—all agree with us, that we should have a convention at a suitable and convenient time, say August or September. Now we ask for a general expression of opinion—and would like those who intend going, to say so now; to write us in time for the April number. Letters must reach this office by the 20th of March.

Dr. Millett has sent us the following letter, which explains itself.

HOLMESBURG, PENN.

DEAR SIR:—I think the bee-keepers throughout the country, who wish to exhibit specimens of *new honey and comb*, ought to know that a *certain time* will be allowed in which to add fresh specimens, if those who have authority in the matter will make early application to Mr. Burnet Landreth, the chief of the Bureau of Agriculture. I write this, that the committee appointed by the N. A. Bee Association may let Mr. Landreth know what time will be most desirable—whether from July 1st to 20th, or later.

In a late number, the idea was thrown out, that the honey of 1875 *only* could be exhibited. I have authority for saying that such is not the case. Arrangements may be made (if done soon) to exhibit the gatherings of the Spring of 1876. The same arrangements will be made for flowers and fruit and vegetables.

It is very important that bee-keeping, in all its branches, should be fairly and fully represented—hives of all kinds, bee-books, bee-implements, etc., etc. There will never be such another opportunity.

D. C. MILLETT.

23d Ward of Phila., Station M.

This matter ought to be generally discussed and a decision arrived at before our next issue, and we hope to hear from hundreds during the next fifteen days, and then full announcements will be made in the April number of THE JOURNAL.

In changing post offices, always give old as well as new offices.

☞ JAMES HEDDON and HERBERT A. BURCH, of Michigan, called on us, since our last issue. As we had never met either of them before, we were glad to make their acquaintance. We were deceived. We had pictured Mr. H. as a regular "Vinegar Bitters" man. Instead of that we found him pleasant, agreeable and very intelligent. He differs from many of us in his views of some things, but he has a right to his views, and the expression of them. He acknowledged that his remarks were too sweeping about the Bee Journals, and said he had no intention of applying his remarks to THE AMERICAN BEE JOURNAL. Mr. H. is earnest and persistent, and has a right to be heard. He has an article in this issue on "Whom the gods would destroy, they first make mad," in reply to remarks made by friends KING & SLOCUM of *The Bee-keepers' Magazine*, and friend Root, of *Gleanings*. Some remarks are severe; but in giving them a place, we do not wish to be understood as being in any way unfriendly towards our cotemporaries, for we are not, but simply as a matter of justice, to let Mr. Heddon be heard for himself. THE AMERICAN BEE JOURNAL has always prided itself upon the fact, that its columns were free to all—and is, has been and always will be—devoted to the interests of the honey-producers of the world, so long as it is in the hands of the present PUBLISHER.

☞ We are asked to give Geo. S. Wagner's address. We do not know just where he is—but he went to heaven some fifteen months ago, where he no doubt received a hearty welcome from his loving father—for many years the able editor of this JOURNAL. Mrs. W. is now left alone, and has returned to their former home at York, Pa., awaiting the angel's call.

☞ In order to give us more room and pleasanter quarters, we have removed our editorial and business room a few doors north. Letters addressed to either numbers will readily find us. Callers will find us at all times at Room 20, No. 184 Clark St., Chicago, and will always be welcome. Come and see us when in Chicago.

☞ A correspondent writes us, asking which would be the cheapest and most effectual way to reach bee-keepers—by circulars or an advertisement in the AMERICAN BEE JOURNAL? By all means the advertisement is the most effectual way of communicating with bee-keepers. Every bee-keeper of prominence or importance takes the JOURNAL and reads it through each month. The subject of economy does not admit of a question. Read what STAPLES & ANDREWS say in their letter in this number. As a proof that advertisers know where it pays them best to advertise, we remark that we do no canvassing—all our advertisements come unsolicited, except by the merits and standing of THE AMERICAN BEE JOURNAL.

☞ By private letter we learn that Wm. McKay Hoge, *alias* John Long, who has been carrying on the Comb Foundation business in New York, is *non est inventus*. Also, that the Honey House of Mrs. Spaids, in New York, is closed, "To let," being posted on the door. Our readers should make a note of this.

☞ The warm weather of the past two months, all over the country, has caused the buds of fruit trees to swell, and either an early fruit season, or none at all, will be the result—to be determined by the presence or absence of Jack Frost during the coming month.

☞ In order to give the full report of the EASTERN BEE-KEEPERS' CONVENTION in this number, we were compelled to omit several pages of matter already in type, leaving it for the April number. We have added eight pages to the present number making it forty, instead of the usual thirty-two. Another eight may be added at no very distant day.

☞ L. B. Hogue, Lloydsville, O., writes us that the honey-mine story that we enquired of in the last number, is entirely without foundation. He says he was in that locality when the story was invented, and it was thought to be a "huge joke."

H. D. Mason, Onondaga County, N. Y., writes: "My recept for curing bee stings is kerosene oil, applied as soon as stung. It never fails with me."

For the American Bee Journal.

Moses Quinby.

"*An honest man is the noblest work of God.*"

The friend of man in every peaceful way,
Where science, knowledge, thought, afforded means,
The gentle, kindly, open heart portray
Where tenderness with love serenely beams.

How low and little seems the conquerer's name,
Compared with thine, philanthropist and friend!
True worth and goodness—source of grateful fame,
Great benefactor thine with blessings blend.

Knowledge, long sought, to thee was reckoned nought,
Nor narrow, selfish view was entertained,
Until the world could profit by the thought,
Your greatest pleasure—what mankind has gained.

These are no empty terms of fond regard
From friendship drawn—though friendship's ties were sweet.
The gain of annual millions—nectar barred;
A fact your science taught the world to reap.

To-day we miss that kindly beaming smile
Which won't to cheer while teaching something new,
I list thy coming; mind doth so beguile,
Nor can I deem these senses speak so true.

Is it all wrong? Why can you not be here?
Does your identity yet still remain?
Have we all knowledge in this nether sphere;
No want your guidance, greater heights to gain?

The God, the Law, the Man, the same, then why,
True, the relation, change in which we grow.
But science teaches, and truth cannot lie,
Why not, then, learn, these higher truths to know?

What weak admissions are we wont to make,
That any truth should rise beyond our ken,
Our business is to learn—not stand and quake—
What greater thought can mortals comprehend?

Can we suppose you'd take no pleasure here?
Did you e're shrink where man the right could see?
Where then the reason, but we stop our ear:
Reason's not popular. When will it be?

But O, dear friend, your course was ever plain;
Progression's law you ever recognized;
And here, as there, wherever you remain,
Your power not less, through death baptized.

I cannot say good-bye, much less farewell:
Through law's relations, I can learn from thee,
There is no Death; true science trumpet tells,
Through every change, a living God we see.

The work well done so far is sure your due;
I know of none who greater deed hath done;
But that's the reason, if ought still is you,
It must through onward, endless cycles run.

Nor here I doubt; the God within was clear;
From what we know, we judge of the unknown.
Far past dull faith is knowledge; soul to cheer,
Immortal life, demonstrate now is shown.

Hail life's grand anthem then. All are of Thee,
Great God; still nearer we to Thee and Thine.
Thus all in all, forever still must be,
And our good friend but fills up Thy design.

S. ALEXANDER.

☞ Our "Notes and Queries" department will hereafter be conducted by Mr. Ch. Dadant, who is well known as a practical and successful apiarist. The matter prepared for this number is crowded out.

Biographical.

Joseph M. Brooks.

Joseph M. Brooks was born in Mt. Holley, State of New Jersey, June 8, 1844. At the age of two years his parents removed to Chagrin Falls, Ohio, where they resided until 1849, when they moved to the city of Cincinnati, thence to Columbus, Ind., where he now resides. Mr. Brooks is, by occupation, a tinner. At the age of thirteen years he commenced

Joseph M. Brooks.

his trade under the instruction of his father, and for several years has been foreman in the principal shops of his town. Although a mechanic, he has always taken a deep interest in "pets" of some kind, having kept fancy pigeons and poultry until 1874, when he gave them up in order to better care for his bees, believing that "what is worth doing at all, is worth doing well,"—hence his success as an apiarist.

In 1870 he, in company with his brother, purchased their first bees (blacks in box hives). Although they were new at the business, they, with the aid of Quinby's Bee Keeping Explained, succeeded in transferring them into frame hives and dividing and Italianizing them the first season. Not being satisfied with the Mitchel or Buckeye hive they were using, they, like all beginners, began to invent hives to their own notion, and as many times set them aside, until, finally, they decided on what is now called "The Brooks Non-Patent Hive. This hive is worked either as a one or two story hive. If run for comb-honey, it contains eleven broad frames, 12x12 in. square, and has abundant room for boxes or small frames, directly on the brood frame. If extracted honey is wanted, an upper story with another set of same sized frames are set on, making twenty-two frames to the hive. They are now wintering fifty-four colonies (pure Italians) in these hives, and they believe them to be the cheapest and best form in use. Their success from the first has been remarkable, never yet having lost a single colony by dysentery or disease of any kind, while their neighbors lose more or less every winter.

Mr. Brooks advertises freely in The American Bee Journal, and to this, as well as to the fact that he keeps only the best of stock, can be attributed his business success.

Correspondence.

For the American Bee Journal.

Adulterated Honey.

Few topics, perhaps, pertaining to modern bee-culture, have received such general and wide-spread attention at the hands of apiculturists during the past year, as this subject of "adulterated honey."

If it be true, as has been stated, that our American people like to be "humbugged," it is no less true that they are ever ready to do whatever may be within their power to remedy any evil that shall work to their pecuniary detriment. Thus, when it became apparent to American bee-keepers that their products were compelled to compete with the cheap grades of saccharine matter under the guise of honey, they set resolutely to work to remedy the evil; nor have their efforts been altogether devoid of success. We saw it stated in the "old reliable" some time ago, that this "hue and cry" about adulteration had been a damage to the honey producer; since people had come to distrust all liquid honey as an impure or "mixed" article. This may, Mr. Editor, be true, in a measure at least. We hope it is. If the discussion of this subject has lessened the demand for *manufactured* honey, we are glad of it. If it has had a tendency to make consumers of honey look upon the liquid article in any shape, with suspicion, thereby rendering its already slow sale still more so, we are not sorry. Honey is essentially a luxury, and ought not to be compelled to compete with syrups that are sold by the gallon. But liquid honey must do this, and as long as it is offered on our markets, just so long will it have to compete with the adulterated article, since liquid honey renders adulteration possible. When the price shall have receded below even that of the poorer grades of sugar, we think that our American bee-culturists will discover that their only alternative (if they would make the business pay) is to produce comb-honey exclusively, in small glass packages.

In answer to numerous inquiries of our readers, we will say that "Money in the Apiary," for 1876 has not been issued, and will not be until Spring, perhaps not then. Due notice of its publication will be given in the advertising pages of this JOURNAL.

HERBERT A. BURCH.

So. Haven, Mich., Feb. 21, 1876.

In giving address, be careful to give the full name of individuals, the post office, county and State, and do not write on the same piece of paper that communications for the BEE JOURNAL are written on.

For the American Bee Journal.

Origin of the Albino Bee.

As I have received letters from a number of persons in different parts of the country, who wish to know something more definite in reference to the origin of the albino bee, I will here give a full description of their ancestry. The mother of the queen that produced the first albino bees, I received from Mr. H. A. King of Nevada, Ohio. Let me say here, before I proceed further, she was the best queen I ever received from any person. The granddaughter of this queen is the one that produced the first albino. They were about half albino and half Italian. I have two distinct races of bees in the same hive. Now the difficulty arose in my mind how to get them pure albino. I knew it would be useless to try to breed them pure in my home apiary. So I took them to the South Mountain, out of the range of any other bees, in order to get them pure. I have succeeded in doing so, to my entire satisfaction, and will say, and I think without danger of contradiction, that they are the handsomest bees in the known world. The albino bees have three beautiful yellow bands. From the band to the end of the bee is quite white or bright silver color; their heads are dark velvet color, different from the Italian; the wings are also finer than the Italian. As for their good qualities, I claim the queens to be very prolific layers; the workers are excellent honey-gatherers, they gathered more honey than the Italian last season; they are not as cross, and consequently more pleasant to handle.

D. A. PIKE.

Smithsburg, Washington Co., Md.

On page 63 will be found the report of the Missouri Valley Association, held on the 15th inst. We would respectfully solicit communications or essays from all practical apiarists, to be read at our next meeting, which will be held on Tuesday, April 4th, '76, at the rooms of Mo. State Board of Agriculture, 41 Insurance Building, corner Sixth and Locust streets, St. Louis, Mo., on the following questions: "Do bees injure fruit?" "Will bee-keeping pay?" "What is the best hive for all purposes?" "The best mode of artificial increase?" "Do bees make or gather honey?" "Are the Italians superior to the Black, if so, why?" "The best mode of obtaining box-honey." And we would request that all bee-keepers in and adjoining this county, in Missouri and Illinois, and all that can attend our meetings, to send us their address, so we may notify them of all meetings of the association. You will oblige us by giving this a place in your JOURNAL for March, so we can have time to hear from all interested before our next meeting.

W. G. SMITH.

For the American Bee Journal.

Comb vs. Extracted Honey.

Mr. Editor:—I believe that the successful business man of any calling must watch "the signs of the times," and change his base of operations as the "times" indicate.

So far, I have produced mostly extracted honey, but as that article has become a drug at ten cents per pound, and comb-honey in small glass boxes commands a price still, that is better, considering cost of production, I have determined to remove the greater portion if not all of my apiary northward and turn all my working force (130 colonies) to the production of comb-honey in small boxes.

We have been told by some of the instructors in apiculture, that extracted honey at ten cents per pound could be produced as profitably as could comb honey at twenty-five or thirty cents. When I see such assertions as this, I *know* that the one who *honestly* makes them is ignorant of the principles of the manipulation of small boxes. So are the persons who tell us that we can secure more surplus in large than in small boxes. *I can secure more surplus comb-honey in small boxes than any live man can do in large ones*, in such a locality as mine at least. Perhaps better honey locations and different climates might prove differently, but, on the whole, I believe the extractor has kept us in ignorance of the true principles of comb surplus production. A word in regard to

THE DISPOSAL OF HONEY.

As regard to comb-honey in small glass boxes, it sells itself, in large or small quantities, no matter what the quality may be.

I dispose of my extracted honey by retailing it out (at barrel prices) to my neighbors. In this way I *produce demand* at the same rate I do honey. If all apiarists would do this, the price of honey might be advanced slightly after a few years. I find that a great demand for any kind of *well-ripened* honey may be *worked* up in almost any locality. My greatest drawback has been, that the first two years I used the extractor I did not leave the honey in the combs until it was *capped over*, and, as a consequence, it would take several years *yet* to convince *all* the people that they would get good, sweet, rich honey, instead of nectar. This brings me to the matter of

ADULTERATED HONEY.

A short time ago I received a *sharp* little letter from C. O. Perrine. Notwithstanding it did not flatter quite a number of us very much, it glittered with sound logic and good sense. Being always open to conviction, and feeling conscious of having a great deal yet to learn, this letter set me to reasoning upon the subject in this way:

Of course the adulteration of honey increases the supply, but not so much as the proselyting of "everybody" to the bee business; besides if the honey dealers *do* adulterate, they *work* up a demand for their production and ours too, and, furthermore, their honey is far superior to the nectar that the raw recruit will invariably sling out; besides the latter creates no demand in proportion to the honey he raises. Honey is now being bought by the barrel quite below the cost of sugar syrup; and if the city dealers *do* adulterate, they do it no doubt to improve the miserable sour nectar that they receive from bee-keepers.

So consummate is their *process* that it is *very* difficult for any of us to tell their honey from the "simon pure." I am pretty well persuaded that their honey *is pure* now-a-days, at least, and, whether it is or no, the less we have to say about it the better it is for *us*.

If Perrine's honey *is* in every way equal to ours, and we call it adulterated, we admit that honey is no better than sugar syrup. If, on the other hand, our honey is superior to his, the people will find it out for themselves. Let us not insult the consumer by shouting: "City honey is adulterated," "We tell you, so you may know it," "You never *would* know the difference if *we* did not tell you." How many of us have talked as above only to be accused of *our* melting up sugar for our trouble. Take "Warranted Pure Honey" off your labels, and simply put on "Honey" "from A. B.'s apiary, Pordunk, Pa."

When anybody talks of "artificial honey," laugh at them, and tell them to try it; that you think *them* capable of judging for themselves. *This* hits their weak spot. Put on the back of a ten dollar greenback, "warranted genuine," and no inexperienced person would take it without due examination. Without the above they would fold it up and *soon want more*. This is the way it seems to me. My bees now seem to be quite free of the Winter epidemic, though I have *heard* of some losses quite severe.

James Heddon

Dowagiac, Mich., Feb. 7th, 1876.

For the American Bee Journal.

Six Months among the Bees in California.

Ed. Am. Bee Journal:—You have had in your Journal from time to time, during the past year, many rose-colored reports from this county, which are inclined to mislead your army of readers at the East, who have felt an interest in this land of honey. A few items of other facts may also be of interest to your read-

ers, from one who has had pretty good facilities for "learning the ropes," though I do not profess "to know it all," yet.

The first thing an apiarist does after his arrival here, is usually to hunt up a "ranch," or location, on which to establish his apiary. This is usually located on government land, after many weeks' search, and may then turn out not to be a good one. The main point is to get within the granite or bee range—a strip of mountainous country 8 or 10 miles wide, extending from Lower California up into Los Angeles county, over 100 miles long.

To select a location here intelligently, one needs to be somewhat of a botanist, or at least to know by sight all the different kinds of honey-plants, their order of blooming, and the relative quantities of each required. Of course one cannot find everything just as he would order it; but take as near a perfect pasture as he can find. In the early days of bee-keeping as a business in San Diego county, the ranches were established on the Sweetwater, a "California stream," which runs out east from just south of the town of San Diego, among the mountains. It is only within the past two years, or since the great excitement began, that other localities were sought for further north. At this writing nearly every location, good, bad or indifferent, has been settled on as far as Temecula, 75 miles north of San Diego, to which point all the products of the apiary have to be carried in wagons, and all supplies brought out, making it very expensive to carry on the business. The roads generally are good, but as all the mountain ranges tend from the seashore toward the southeast, it is easily seen that there are some heavy grades. All or nearly all the teams we meet in traveling are four or six-horse—two to draw the wagon, and the balance the load.

There are few "old settlers" except "greasers," or Indians and Mexicans. The former are half-civilized, dress like whites, live in adobe huts, and either herd their own flocks of cattle, sheep or horses, or else are herders for the Mexican stock men. Since the great rush and settlement in Los Angeles county, which lies next north of this, the larger portion of the sheep men have had to search other and less populated sections for their flocks.

Many thousands of sheep were driven into this county, where they are now overstocked, many herds decreasing in numbers from insufficient food or water. The price, too, this fall for the wool—9 cents or 10 cents—has disgusted many with the business.

Cattle and horses will not feed after sheep.

The stock men dislike to see new settlers come in, as the laws here require herding of stock or suits for damages. The "bee men," too, dislike to see stock around them, particularly sheep; for although they eat but sparingly of the white sage and other honey-producing plants, they break down the brittle stems, and soon wear out a fine field.

California is famed for its freedom from insect pests injurious to fruit. While that may be true, it nevertheless is quite true that a worm was found in nearly every white sage flower last spring, which will account for the rarity of pure white sage honey in market this year. This worm, with the April frost and extreme dryness of the season, cut off the crop of honey to an average of not over 25 lbs. per hive, and an increase of not over 25 per cent. Indeed, I know of one apiary of 250 stocks which gave but two swarms this whole year, and when I was there last—at the end of the busy season—the owners had taken but 99 cases of honey. One other apiary of 150 stands came out equally bad, and both did remarkably well last year. One apiary of 500 hives did not give a single pound of surplus. I have heard of but half a dozen or less in this whole county who have made enough to pay exyenses, counting the time and attention required as anything. One gentleman had 150 stands, hired an experienced apiarist at $45 per month and board. In return he got seven cases, or 400 lbs. of box-honey, and an increase by dividing of some 10 or twelve stands. There are many long faces among the bee men, and many a poor fellow would like to sell out and quit. I sincerely believe that for a man who understands the business, and whose heart is in the work, bee-keeping here will pay in the long run; still, I think some changes in the prevailing methods of gathering and marketing the products are necessary.

It seems that there has never been any effort made to save the large surplus of honey from the manzinita and blue sage, which bloom in January and April, because they do not produce quite so white a honey as the white sage, and yet many a hive at these times becomes too full of stores for the good of the colony.

At the time (May 20th to July 20th) when the white sage is in bloom, the sumac and grease-wood also yield fully as well. The color of the sumac honey is several shades darker than either of the others, so that it is rare to find sections filled exclusively of either sort.

Possibly the extractor will be reverted to, at least to give it a fair trial to know whether or not it will pay.

Those who are engaged in bee-keeping rarely do anything else, consequently each one has to watch carefully for the

best reward for his labor.

There are few cultivated farms in the county, which are as large as a good-sized State—the habitable portion being about 60 miles east and west, and 100 miles north and south. Take either of the two roads leading up north from San Diego, you may travel twenty miles and not see a cultivated field. It is a constant warfare to get and keep things growing. The gophers, ground squirrels (grey and but little smaller than the grey squirrel at the East) and kangaroo rats are omnipresent, eating the seeds or young plants as they appear. Dozens give up in despair of raising even their own vegetables on this account. Some of the land is *moist*, on which, if properly guarded, nearly everything will grow, and with marvelous rapidity. Bnt such land is the exception, and wherever found in any considerable quantity, it is pretty sure to be covered by a grant, and consequently not to be settled on.

Very little rain falls from April to November—in fact but one shower has fallen since May 1st, and that wet the parched soil but from two to four inches, and was speedily dissipated under the succeeding days of sunshine.

I have not seen any estimate of the relative proportions of cultivable lands too worthless, but my judgment is that not one acre in fifty is good for any purpose of cultivation. The mountains and in fact almost the entire country is bare of trees. The extreme dryness of the climate producing only bushes of a stunted growth averaging five feet high, over tens of thousands of acres in one body.

The principal bush and at the same time, the most worthless for bees, is the chemise or chemisel—a harsh, rough bush from 4 to 6 feet high, through which it is impossible to go either on foot or horseback. The little forays occasionally made upon it only result in torn clothes, bleeding hands and bad tempers. Of course in such a country, from the great scarcity of timber, wood is high and not of good quality.

Such as is taken to market being either small limbs of an inch in diameter, or short, crooked, intractable sticks, which successfully resist the axe, but bring a good price in money. Of churches, there are several in San Diego—not one, to my knowledge, in the country outside the city, except Catholic, and the service in these is usually carried on in Spanish.

There are a few school-houses, but the people live so far apart that the children cannot attend. It is twelve miles from where I am located to the nearest school-house, or any other public building.

As a consequence, the children must be taught by their parents, or allowed to grow up in ignorance.

The idea seems to prevail that all are here temporarily—that as soon as enough is made to live on elsewhere to pick up and leave.

Physicians are rare outside the town of San Diego—and when called upon to go out 20 to 50 miles to attend a case, their charges are simply extortionate. I recall one case of a charge of $1,000 for going 50 miles.

It is all very well for people at the East to keep bees, where they are surrounded by the comforts and amenities of life—they *ought* to have some drawbacks, for on coming here, one abjures comfort, society—*everything*.

To place a man alone on a bee-ranch for a year, he is a fit subject for a lunatic asylum—the solitude is terrible. The oppressive silence of these canyons and mountains with no trees through which the light winds can sigh; the nearly entire absence of birds of song to gladden the heart; the distance to neighbors, all contribute towards the feelings one might have in solitary confinement.

Coming to California, you give up forever all your old associations and enter a new world. The trees, the flowers, the birds, the climate, the soil, the sky—all differ from what one has been accustomed to from childhood.

It is true they call many trees, bushes and birds here by the same names they do at the East, but you fail to recognize them, and soon come to the wise conclusion to accept everything as strange.

While the farmer has so many difficulties in the way of getting crops to grow, all is not plain sailing for the apiarist. The moth miller has twelve months in a year here to work. Skunks and ants abound.

A skunk will get up in front of a hive and tap on the front of it until enough bees come out and get entangled in his hair for a meal, when he will roll over and over until the poor bees are crushed or stunned, and then he will eat them. Poison, or traps, have to be regularly inserted to keep them from despoiling an apiary.

Of ants there are many kinds; from the wee red one of one-sixteenth of an inch in length to those of an inch or more.

On account of these legions of ants, they have to make stands for their hives to set on, and keep the legs greased with coal-oil or axle-grease, or any other nauseous thing to repel them. Houses intended for honey have to be set "on stilts," which are kept greased to keep out the pests. This is really the plague of the country; and any man who will invent an "Ant Destroyer," sure to kill or drive them away, can come here and make a small fortune selling it.

The water is generally good, though hard, and is usually found at less than 30

feet in depth. I do not know of any artesian well in the county, but would suppose they would be tried, to avoid the great loss of crops during the long seasons of drouth.

In the town of San Diego, the water is not good, but such as it is, is sold at the rate of three cents a bucketfull.

The Water Company is now trying to remedy this by pumping water from the bed of the river of the same name. Nearly all the water we get from wells is warmer than the outside air, when first drawn, so that you have to let it stand and cool. Ice is out of the question. A little is brought down from somewhere up towards the North Pole, and sold at 5 cents a pound.

Those of us who keep horses, usually have to buy hay for them or submit to their getting too poor to do any work during the long dry seasons.

Hay in this country is not the hay of the Eastern States. It is wheat, barley, or oat straw, cut while yet green.

This is often hauled 15 to 30 miles, as it is only at rare intervals that any is grown.

The seasons here are two—the wet and the dry. The former extending from December to March, during which time, rain usually falls in sufficient quantities to overflow the sand in the beds of the streams, and even create a torrent through which, over the treacherous quicksands of the streams it is dangerous to cross. Some of the streams are bridged, and few have steep banks where the roads cross them. At this season of the year, the real summer in California, the country gets green and is beautified with flowers.

With the advent of March, the ground dries up, vegetation dies, and by the first of May, the country looks parched and brown. From this time on to December, the same state exists, with nearly the same temperature.

The climate, meantime, is superb. Nothing any of us have ever been accustomed to will equal it. And this one thing, *climate*, is the great charm of the country. I have not heard it thunder but once in six months, and that was a weak roll. Neither have I felt any strong wind during the same time.

The nights are invariably calm, or with the gentlest of low breezes wafting the deliciously soft air across the sea. The early mornings are often foggy and nearly calm until 9 or 10 A. M., during which time, if it chance to be clear, is the hottest part of the day. Then the sea breeze springs up, gently at first, increasing to a fair breeze by 1 or 2 P. M., and then dies down again—and thus will go the rounds—the same thing day after day, week after week, and month after month.

G. F. Merriam.

San Diego, Cal.

For the American Bee Journal.

Undesired Experience.

All that may be known of bee-culture we have aspired to know; but we have by no means aspired to obtain all our knowledge experimentally. To verify in our own little apiary what we learned from Langstroth or Quinby, or from the experienced brethren who teach in our Bee Journal, might, indeed, be delightful; but only within certain well-defined limits. For there are heights—or rather depths—of experience concerning which we listened, sometimes with sympathetic interest, sometimes with shuddering wonder and awe—but with never the slightest desire to tread such slippery paths for ourselves. Afflictions like these, we said, belong to apiarists who count their stocks by fifties and hundreds; not to bee-keepers so small as we—bee-keepers who are able to cultivate an intimate acquaintance with each of their queens, and cherish a particular affection for every colony in their possession.

But alas! one by one, all the trials we thought to escape have come upon us; the elopement of swarms; the death of queens beloved; the loss of quarts of bees (though not, *as yet*, a whole colony) by disease in winter, with all the heart-sickening alternations of hope and despair attendant thereupon; and, finally, most dreaded calamity of all—foul brood! It is of this last misfortune we write.

Early in the summer of 1874, a pair of wrens with whom we were on friendly and intimate terms, became the prey of our cat, Zebulon. This event concerned us more deeply than the reader may suppose. It was not only that we mourned the sad fate of our little tenants and friends, but there was thrown upon us the grave responsibility of caring for a nest-full of orphaned brood. Six little clamorous mouths called imperatively, and almost incessantly, for food. We had watched the old birds closely enough to learn that crickets were at this time their chief dependence. So, morning, noon and night—or, rather, every hour in the day—we went forth in quest of crickets.

We learned to seek them in their lurking places, beneath the dead bark of the old stumps, and—after a time—we learned how to catch them when found. But, with our utmost endeavors, we could not capture crickets so fast as our proteges could dispose of them.

What with our neglected household duties, our neglected work in the apiary, and the constant pitiful pleadings of our little birds for "more crickets," we were fast becoming fit inmates for a lunatic asylum when a bright thought occurred to us—why not feed them on drone larvæ?

The experiment was tried, and succeeded admirably. Hive after hive was deprived of all drone larvæ of proper age, for our purpose. (Though, beyond this point, the history of our wrens has no relation to my subject, I will briefly furnish their story. We succeeded in raising three of the six. As they grew in size and strength they grew shy and wild, and when, at last, we ventured to set them free, to care for themselves, they seemed most ungratefully willing to leave us, while we, it must be confessed, were only too glad to see them go.)

While foraging for supplies in behalf of our wrens, and solely in consequence of this search, we discovered what first awakened our apprehensions with regard to foul brood. It was only a few cells of dead larvæ in a single comb—which comb we promptly destroyed. This idea of foul brood was at once suggested, and though we refused to entertain it, we did not delay to carefully examine the brood in each of our seven colonies, while, for some little time, the suspected colony was subjected to the closest scrutiny. But nothing came of it, and we laughed over our false alarm. Nevertheless its effects remained. We were more watchful and suspicious of evil thereafter, and to this alone we attribute the fact that we subsequently succeeded in discovering the disease before it had made much progress. A cell of suspicious aspect always attracted, and always received attention.

From my Bee-Record, for the same summer, I quote as follows:

Aug. 12.—Noticed, to-day, in a comb at No. 7, a cell with a somewhat discolored and depressed cap. Removing it, found, to my dismay, a dead larvæ in quite an advanced stage of decomposition. Proceeding to uncap other cells, found, scattered among healthy brood, thirty or forty dead drone larvæ. In the worst cases they were of a lead color, soft, and slightly offensive to the smell—the odor being sour rather than putrid. Noticed no perforations in the caps. They were usually slightly depressed. On another comb, found two dead worker larvæ. Could find nothing more, but as the hive contains a large amount of brood, and is overflowing with bees, examination was unsatisfactory. I carefully cut out the two dead larvæ from one comb, and destroyed the comb containing thirty or more. Removed the queen and contracted the hive entrance. Fortunately, there is little or no robbing these days. * *

We were now seriously alarmed,—though by no means ready to conclude that this was foul brood. We attached great weight to the fact that we had found no perforations in the caps. A second examination was made at the time the young queen began to lay—the combs being then nearly empty of brood. Finding nothing wrong, we gave the bees the benefit of our doubt, and allowed brood-rearing to continue. Repeated examinations disclosed only healthy brood, here and elsewhere, during the remainder of the season.

We concluded, Nellie and I, that *dead* brood might not, of necessity, imply *foul* brood. We congratulated ourselves that we had dared to disregard the advice of Mr. Quinby — "should a dozen or two such" viz., dead larvæ, "be found, the stock should be condemned at once, and all the bees driven into an empty hive." (See Mysteries of Bee-keeping, page 219.) For by thus doing had we not saved nine beautiful straight worker combs? We were very cautious, however, not to exchange combs from this hive with others —a caution which we remembered to observe at the beginning of the next season —last spring.

But for the past season's experiences we shall need another chapter.

CYULA LINSWICK.

Meeting of Mississippi Valley Bee-Keepers' Association.

In response to a call issued some time ago from the State Board of Agriculture, a number of gentlemen interested in the culture of bees assembled yesterday afternoon in the room of the Board, to effect a permanent organization. The following gentlemen were present: Hon. Norman J. Colman, Hon. John Monteith, E. A. Riehl, of Alton; J. T. Colman, L. C. Waite, Esq., T. W. Guy, of Kimmswick, W. G. Smith, Prof. Riley, Hon. Josiah Tilden, of Jasper county, and Mr. J. R. Cordell.

Upon motion of Col. Colman, Mr. E. A. Riehl, of Alton, Ill., was elected chairman, and Hon. John Monteith, secretary.

Col. Colman stated that he had been spoken to by several gentlemen, not present, with reference to calling this meeting. Had seconded their efforts. Bee-keeping is a very important industry and ought to be fostered as much as any other industry of the nation. Here in the heart of the Mississippi Valley an organization of bee-culturists ought to exist. In other parts of the country such organizations have long existed. In the West old fogy ideas still prevailed, and people seemed to think that the best hive in the world was still the beegum or hollow log. The speaker thought a permanent organization should be effected.

Mr. Waite said that a State Bee Keepers' Association had already been organized, but for the past three or four years nothing had been done. There were perhaps twenty-five or thirty members. This association had been in the habit of meeting in this city during Fair week.

The meetings had always been very interesting, and were largely attended. Mr. Waite thought it would be a good idea to revive this association.

Col. Colman asked if Mr. Waite thought October the best time for holding such annual meeting. Mr. Waite thought so from the fact that there were so many farmers in the city at that time.

The chairman differed from Mr. Waite. When people came to the Fair they didn't come to attend horticultural meetings or meetings of any kind.

Mr. Guy, of Jefferson Co., did not believe in the feasibility of reviving the old society. New men could organize much better than revive an association. The speaker was also in favor of holding the annual meetings at some other time than during Fair week.

Mr. W. G. Smith offered the following resolution, which was adopted:

Resolved, That this meeting now proceed to organize an Association to be known as the Mississippi Valley Bee Keepers' Association, and that we proceed to the election of a President, Vice-President, Secretary and Treasurer, who shall hold their office for one year, and until their successors are duly elected and qualified.

In accordance with this resolution the following officers were elected for the ensuing year:

President—Norman J. Colman; Vice-President—E. A. Riehl; Secretary—W. G. Smith; Treasurer—L. C. Waite.

Upon motion of Mr. Guy, the officers were constituted a committee to draft a constitution, to be published as soon as prepared.

Upon motion of Mr. Smith, it was decided that when the association adjourns, it adjourn to the first Tuesday in April.

Free discussion being now in order, Mr. Riehl gave a brief narration of his experience in bee-keeping for the past year. He kept twenty-five or thirty hives. Tried to prevent swarming as much as possible. The past season has been unfavorable to bee-culture. He thought the extractor prevented swarming. Of course he clipped one wing of the queen, and this was a great preventive.

Mr. Smith said his experience with bees had been merely experimental. He used the Longstroth hive, so arranged as to use either story, sometimes one story at the top and again the other. In artificial swarming he left it as near as possible to nature. The past season had been a favorable one to bee-culture in St. Louis county.

Mr. Waite said that the past year had been a most prosperous one in this locality, as well as some distance south of here. There was no doubt that in keeping bees, frames of some kind should be used in the hives. Keeping bees meant hard work. He favored Italian bees. Had kept, some seasons, 150 stems of bees. He instanced, in arguing, that bee culture would pay, that he had had one hive that put up 250 lbs. of honey in one season. Mr. Waite recommended the Queen hive as the best for all purposes. He had been keeping bees fifteen years: knew, that properly attended to, they would pay at least one hundred per cent. The fault seemed to be that farmers were too apt to neglect their bees.

Mr. J. T. Colman said he had noticed his bees during the past week lighting upon the buds of the maples.

Col. Colman said he had kept bees for twenty-five years. He thought the secret of success in their cultivation was to keep the swarms strong. He said he was a convert to the movable-frame hive, for the bees could be then handled like stock of any kind. Hives can be equalized and saved by its use. He preferred the Queen hive. He explained in detail the advantages offered in the Queen hive. In concluding his remarks, Col. Colman congratulated the Association upon their organization, and pledged himself to do all in his power to further their interest.

Mr. Guy objected to the use of smoke about the hives: he recommended to those fearful of being stung, a fine wire mask and rubber gloves.

Mr. Smith thought there were times when smoke was absolutely required.

Col. Colman said he had found honey an excellent remedy for chills.

Mr. Smith referred to the vast quantities of adulterated honey on the market, and this called out a random and desultory discussion upon the subject. It was the sense of the Association to procure the passage of a law rigorously punishing all persons guilty of manufacturing and vending adulterated honey.

Mr. Tilden, of Jasper county, having come in after the meeting had advanced somewhat, was called upon to state somewhat of the progress of bee-culture in his section of the State. He briefly stated that in the remote past, apiaries had not done well in Jasper county, but during the past year bee-culture had met with gratifying results.

There ensued a brisk discussion upon the proper construction of hives, participated in by Messrs. Cordell, Smith, Colman and Monteith. There was considerable difference of opinion. Mr. Riehl took the President to task for having said that the culture of bees was an easy task and could be safely entrusted to children.

Col. Colman said Mr. Reihl had misrepresented him. He (Colman) had said that to insure success in bee keeping, the utmost care and unremitting labor were necessary. He had said and still contended that women and children were just as

well qualified to take care of the apiary. Col. Colman then proceeded to inject a female suffrage stump speech into the belly of his argument.

Mr. Monteith congratulated Col. Colman upon the stand he had just taken upon the woman question. He doubted not that woman had the potentiality in her for doing the work referred to. So far as the speaker's experience was concerned, he had found the women well qualified for the conduct of bee culture, as soon as they could overcome their timidity.

Mr. Reihl desired to set himself right with Col. Colman. He had misunderstood the gentleman. However, he still insisted that the culture of bees necessitated hard work.

Prof. Riley asked the following questions: Do the bees make or gather honey? Does the queen bee meet with the drone a second time? Would the gentlemen present, when they come upon white bees, please preserve them for the speaker?

Mr. Waite was positive that bees gathered honey. He had fed his bees on syrups and found that they deposited the syrup unchanged in the hives again; the honey, all knew, was frequently flavored with buckwheat, etc., etc.

Prof. Riley disagreed with Mr. Waite. He was satisfied bees made honey, otherwise man could manufacture honey as well as bees.

The Secretary and Treasurer were instructed to solicit essays upon practical subjects to be read at the next meeting.

Prof. Riley consented to speak upon the subject of "Do bees injure fruit," illustrating his remarks by diagrams.

The meeting then adjourned to the 4th of April, at 10 o'clock, A. M.

For the American Bee Journal.

"Whom the Gods would Destroy, they first make Mad."

MR. EDITOR:—Having good reason to believe that the columns of the "Old Reliable" are open even to the "heretics and infidels," and having received letters from bee-keepers asking me why I do not defend myself, I will, with your permission, answer a few of the charges brought by Bros. King and Slocum. While I recognize the fact that "jangling" is neither wise nor profitable to any concerned, still it *does* seem as though a few "remarks back" were at this time called for. What intelligent apiarist can imagine for one moment that he alone is "going to so reduce the number of bee-keepers, as to secure fabulous prices for his honey?" Supply and demand, cast off production, etc., will attend to that. Put truth and error together and agitate them, and "truth will ever come uppermost, and ever will justice be done," as long as production of honey costs as much as at present. We *do* hope to command more "fabulous prices" than those I quoted in our last convention.

I would ask Messrs. King and Slocum if they would be benefited if each honey producer would sell each of his three nearest neighbors one-fourth of his apiary?

This question answers itself. Would it be to the apiarist's interest to do so? (So does this one.) Again, would they like an apiary on every square mile in America? Honey producers, would we? *Why* did the California bee-keepers petition Congress to grant them each a large area of land? *We* petition all men and women to show up both sides of the subject when they write or talk upon bee-keeping, even if their wares do go off slower.

"To be successful one must keep large apiaries," etc.

Who *are* the "successful" ones? Whose pictures are centrally located in Root's Medley?

Have these men succeeded?

Do they "keep *large* apiaries"?

"This branch of industry has been neglected." "Thousands of pounds of honey are yearly going to waste." Thousands of pounds of tannin goes to waste during the clearing of our oak forests, and probably always will, so long as the drug stores are well filled, and the cost of gathering it twice exceeds the market price.

The difference between "agriculture, stock raising, etc.," and bee-keeping, is that stock and grain gain their sustenance from the land *their* owner owns. But no more so with bees than with the fisherman, berry-picker or merchant. What farmer cares how much his neighbor produces. What salesman does *not* care how many "opposition stores" set up in his town? Oh? we are different from other folks—we *raise* queen cages, tin corners, kettle feeders, $5 bee hives and big stories, for sale. ("Send stamp for circular.") "English Journals have no paid contributors." That is nice.

We too will give away to every one who may happen to open a book, our best, hard-earned discoveries, if they will in turn support us in luxury, as they do in England. If farmers only *could* raise honey for 11½ cents per lb. at retail, what a nice thing it *would* be, wouldn't it?

But here again the laws of nature say "no."

"Mixed farming" is becoming *less* and *less* the order of the day in this section.

Whether I loaded my gun heavy or light, it seems that I made the fur fly, if I *didn't* kill out-right.

I do not know what K. and S. mean by "progressive bee-keepers," unless it be those who have "progressed" out of real

production into the more ethereal realms of salaried situations ("*please* send in money to pay expenses"). If I have insulted any one, wouldn't it be better if K. and S. would not repeat the insult by telling them of it, as though they would not find if out alone? From the tone of letters I have received and the conversation of all I have talked with upon this subject, I am not afraid of any "contempt," except from contemptible sources. Now Bros. King and Slocum, don't begin to "cuddle" up to Gleanings so soon; *all* the attaches to apiculture are not going back on you. Only the few who are trying to support their families by the production of honey and bees, are going to wake up to their interests, as the Californians have done, and help to skim off the froth and get at the real substance of the pursuit. All those fellows who form a double-line gauntlet, which nearly every one of us have run, and been bled thereby, will stick to you as long as you will float them by advertising their wares and capturing new victims for them.

No matter how much money may be made in vending worthless apiarian supplies at high, unreasonable prices, if there is not a living to be found in the real production of honey and bees, I, for one, am ready to break ranks and seek some other way of bettering the condition of my family and the world. We expect many who have no adaptability to apiculture, and who have been led to its adoption by one-sided reports, "garbling," etc., together with the big delusive stories told by supply venders, will noiselessly drop out of the business, while new ones will embark in it.

What we want is "free and accepted" bee-keepers, and honesty follows. Those who have carefully weighed both sides, and whose natural adaptability to the business, tells them to stem the current. To such, and all honey producers, do we extend the right hand of fellowship. If all those who have lost, and given up in disgust, would SPEAK OUT, the clamorers would drown the hum of all the bees in the world. We want a Bee Journal. One will do—one not run to the interest of hives or other fixtures—one that welcomes every new comer as one of our little squad slowly trudging up the hill, but seeks to proselyte none—ONE DEVOTED TO THE INTEREST OF THE HONEY PRODUCERS OF AMERICA. JAS. HEDDON.

Dowagiac, Mich., Feb. 5, 1876.

Mr. Walker, a Cincinnati scientist, has allowed himself to be stung once a day for three weeks by bees, to ascertain the effect. He says that after about the tenth time the pain and the swelling were slight, the body seeming to become inoculated with the poison.

For the American Bee Journal.

Economize their Labors.

MR. EDITOR:—No doubt but thousands are situated like myself in respect to bee-pasturage. We have white clover in abundance, but little basswood. We have also a pretty good fall pasture. What honey we get comes in flirts, and is of short duration.

And now comes the question: How shall we work our bees so as to take advantage of their labors? If we build up powerful colonies, either natural or artificial, by the time we get them well started to work in boxes, they send out swarms, and our nice calculation is spoiled. Messrs. Langstroth and Quinby tell us, and all experience corroborates the truth they state, namely, that newly hived swarms work with more energy than old stocks, and will accumulate stores much faster. Now if this be a fact, shall we not take advantage of their labors and have them store their honey for us in nice neat glass boxes or small frames for market, instead of having them filling new hives with brood combs? I have been testing a plan, more or less for two seasons, and am very much pleased with it, and will hereafter work my entire apiary upon it. I like it, first, because I can run my apiary of sixty colonies with but a small increase of stocks, no matter how much they may be disposed to swarm; and, secondly, because I get a great deal more honey and in better shape.

I will now give a description of the plan. For example, I have 60 swarms to commence the season with. I shall work 40 for box or small frame honey, as comb-honey is our hobby; in 20 swarms I want to build combs and furnish brood. The brood I want to keep up the strength of honey-storing stocks. Now, then, natural swarming is what I practice, as it's the only plan that will succeed this way. As soon as a swarm is on the wing I take from *a b c d* of my reserved stocks and fill the hive to be used, all but one or two combs; allowing them to build them in the center; all those combs must be well filled with hatching brood. Now cover the entire top with boxes or frames and hive your swarms, then compel them to go into the boxes, as all below is full and every day those stocks are growing stronger, from hatching brood. Such swarms are very strong and must be well ventilated by raising the hive up, so as to make a passage for bees all around. If honey is plenty boxes will be filled in 6 or 8 days, but of course this time will depend on the flow of honey, but in the course of twenty days you must overhaul these swarms, remove all frames from hives that are nearly filled with honey, and fill in with hatching brood to keep up

the strength of stock. But some judgment must be used not to crowd the queen too hard for room to deposit more or less eggs, or she will go above to surplus boxes. Some one will want to know if we can keep such stocks from swarming. We answer, no; if the season is a good one for honey, you will get a swarm from them about the first of August, but not till they have filled two or more sets of boxes, and if they do swarm we will find some place for them to fill some more boxes, as we can unite them to any swarm in the yard that has room for them.

We now propose to consider how much increase is wanted, and if but a small number is needed, and surplus is the object, we shall proceed as follows: From seven to eight days (and here let me say that date of swarming should be made on each hive) will be the right time. There are now no eggs or larvæ for the bees to construct queen cells from; overhaul any such stock; shake off all the bees, cut out every queen cell —be sure you get every one, for this is important; now remove all combs from the hive that contains the most honey, fill in with capped brood, put on your boxes, and run into this hive a big swarm. Do it in this way: Hive your swarm to be united and set it close to the one to be run into; leave it till nearly dark, then raise hive one inch in front on blocks, bring on your platform and shake down swarm eighteen or twenty inches in front; they will travel in just like any other swarm, and your job is done. Now we have a stock stronger than it was before, casting its swarm. Now, if the flowers are yielding honey, you will get some. Follow up this plan until you have returned a big swarm to each hive. But should swarming continue you may have to make some more new swarms.

What shall we do with the combs that are removed from time to time containing honey? Extract and give to your brood stock, or keep them in reserve, as they may be wanted later in the season. Suppose I should hive ten or fifteen swarms in August, and I have but two empty hives, I will use them and return all the rest, after removing all queen cells; but do not run a swarm back to its own hive, as in many cases it does not satisfy them, and often comes out again.

Some may be disposed to inquire what is gained by this method. We answer, first, that we have but a very small amount of drone comb built, as all our brood stocks built worker combs; and secondly, that our stocks are all very strong, and all receptacles are filled very quickly, so that the honey has a much cleaner and finer appearance. And lastly, we are satisfied that a much larger amount of surplus is the result.

Another plan given by us can be found in February number of the AMERICAN BEE JOURNAL for 1872. On doubling stocks we still practice this plan more or less, and have found nothing better. On this plan we have more than trebled on our surplus.

We have united hundreds of swarms in this way, and in but a very few cases had to resort to scenting them with peppermint or anything else.

In conclusion, we sometimes think it would be better if writers would say more on the subject of "Honey, and how to obtain it," not extracted alone, but nice comb honey; but few articles appear directly on this one subject, the most important of all. I confess I keep bees for one object and no other—dollars and cents.

J. BUTLER.

Jackson, Mich., Feb. 3, 1876.

For the American Bee Journal.

How to Make It.

INSTRUCTIONS FOR MAKING THE STAR MOVABLE COMB BEE HIVE.

As I have been using the Star Bee Hive for some time, and as it is very simple and easily constructed and gives very satisfactory results in yield of honey and increase of stocks, and combines all the good points necessary in a bee hive, and leaves out all the bad points, useless appendages, etc., I will endeavor to give instructions for making it. For the body of the hive take two boards, 15¼ inches long and 11½ in. wide for the ends, and two boards 18 inches long and 11½ inches wide for the sides; the latter to be rabbited one-half inch wide and one-half inch deep; and if a deeper rabbit is desired, the boards must be as much wider as the rabbits are deeper. Then nail these boards up solid with several nails at each corner, letting the side boards in a little at the top, just so the top bar of a frame will fit in a littte loose; this will make the body of the hive a little wider at the bottom than it is at the top, so that if any frame is a little out of square, the bottom corner will not be so apt to touch the side of the hive and be glued fast. The bottom board should be 15¼ inches wide and 30 inches long, and should be nailed on tight, letting it be even with the back end of the hive and projecting ten inches in front of the hive for a lighting board. The entrance should be one-fourth inch high and about four or five inches long. Ventilation should be made by boring a number of one-inch holes in the front end boards and kept closed up tight, except when it is necessary to open them, or a part of them, to prevent the bees clustering on the outside of the hives in hot weather. The cap should be about two or three inches high, and large

enough to fit down over the body of the hive and rest on strips about one inch square, nailed on the body about three-fourths of an inch below the top. The lid to the cap should be about 18 inches wide and three or four inches longer than the cap, and let it project equally at both ends. This hive can be made of green lumber, just as well as dry, by allowing enough for shrinkage, except top and bottom boards, which must be dry.

A board should be laid on top of the cap to prevent the sun checking the lid. The quilt should be about 23 or 24 inches long and about 18 or 19 inches wide, and should be laid over the frames, under the cap. The upper story is made just like the lower one, but without bottom board or entrance. The upper story can be used for a set of frame or honey boxes. If used for boxes, a strip ¼ inch thick and 1½ inches wide should be laid across each end of the frames and along each outside frame in the lower story for the boxes to rest on and to prevent the bees getting up outside the boxes.

I sometimes use a long hive, holding 20 combs instead of a two-story hive, for surplus honey in the combs, or for the extractor. The frames are constructed of five pieces: One top bar, 1 by ¼ inch and 14 inches long. One bottom bar ½ by ¼ inch and 12⅛ inches long. One guide bar ½ by ¼ inch and 12 inches long, and two side bars 1 by ¼ inch and 10 inches long.

To nail a frame together, first take two side bars and drive a nail through each one, ¼ inch from the end, and into the ends of the guide-bar. Second, nail on the bottom bar. Third, nail on the top bar with four nails, driving them through and into the top ends of the side bars. Thus you have a light and durable frame, 12 inches wide and 10 inches deep in the clear, with the exception of the little space occupied by the guide bar. This guide bar is just as good, in every respect, as if brought down to a sharp edge. It also acts as a brace to the frame. For these frames I use ¾ inch finishing nails. As lightness in frames is very desirable, especially in surplus combs for market, the frame is much preferable to some, I have seen in use with timber enough in the top bar to make the whole frame. I order my frame bare sawed at a planing mill or sash factory, from straight grained pine lumber. They cost me 30 cents a hundred. I think this size and shape of frame is as good as any for all uses. For a one story-hive, exclusively, I think I would prefer a frame two inches deeper; but for two stories that would be objectionable, as it would be too far for the bees to travel to get to the top of the upper story. I use 12 frames in a hive, 18 inches long.

S. K. Marsh.

Sixth Annual Convention of the North-Eastern Bee-Keepers' Association.

The Northeastern Bee-Keepers' Association was organized to promote the scientific culture of bees, by means of the mutual interchange of views and by co-operative experimental investigation. Its members consist of prominent apiarists in New England and the State of New York. According to announcement, the society met at Stanwix Hall, Rome, N. Y., Feb. 2, 1876. Notwithstanding the inclement weather, the attendance was large. The meeting was called to order at 2 P. M. by the president, Capt. J. E. Hetherington, of Cherry Valley. The Secretary, J. H. Nellis, of Canajoharie, read the minutes of the last meeting, which were duly approved.

The Treasurer not having arrived, his report was deferred.

The committee appointed at the last meeting to provide for a suitable representation of the bee industry at the Centennial Exposition, presented a report of progress, and further time was granted, during which a plan will be perfected.

The committee whose duty it was to present a bill to the State legislature, for the prevention of adulteration of honey, reported that for several good reasons, which had not been properly weighed at the convention, the committee concluded not to act.

The President's address was then heard. The president paid an eloquent tribute to the memory of Moses Quinby of St. Johnsville, whose labors in the promotion of advanced agriculture, and especially in the field of bee-culture, made him famous. He further criticised the practice of exaggerating the profits of this business and ignoring the failures and unprofitable seasons. Four out of five who enter the business fail because they are not adapted to it. The chief need now is a greater knowledge of wintering, and scientific observation. A vote of thanks was tendered the president for his able address.

(Will forward the President's address soon.)

A number of members were enrolled, after which balloting for officers was in order.

Capt. Hetherington was unanimously re-elected, but positively declined on account of private duties.

Balloting then progressed, with the following results: President, Reuben Bacon, of Verona; Vice-President, I. L. Scofield, of Chenango Bridge; Secretary, J. H. Nellis, of Canajoharie; Treasurer, L. C. Root, of Mohawk; Honorary Vice-Presidents, N. N. Betsinger, Onondaga county; C. R. Isham, Wyoming county; W. E. Clark, Oneida county; and G. M. Doolittle, Onondaga county.

The correspondence of the Association

was then read. An article prepared for this Association, by Dr. W. B. Rush, and published in the December number of the AMERICAN BEE JOURNAL, was read.

INTRODUCING QUEENS.

The Secretary then read a paper upon this topic, by Charles Dadant, of Hamilton, Ill His paper was as follows:

Since it is now proved that bees, like the other animals of the farm, can be improved by importing foreign breeds, the question, "how to introduce queens safely," arises, and becomes an indispensable knowledge to bee-keepers. Many a good and costly queen has been lost or impaired, by lack of experience, in introducing. It is to guard some novice bee-keepers against such losses, that I will try to give my experience on this topic. The introducing of queens when they arrive from Italy, presents more difficulty than in all other circumstances. The queens, at their arrival, have been for three to five weeks confined in their small boxes, with bodies of worker bees that died with dysentery. Some of these bodies are rotten; often some are mouldy; the honey sometimes begins to sour, or it is of inferior grade, gathered from heath or chestnut, or from some other plant giving honey of bad smell. The queens become thoroughly impregnated with these unpleasant odors. No wonder if the bees, which are so clean in their habits, whose hives smell so good, are ill-disposed to accept these foreigners, in place of their beloved mothers. Yet, by complying with the instincts of the bees, we have succeeded in introducing our imported queens, with nearly as much sucess as with our home-bred queens, our losses not having exceeded five or six, on about 150 imported queens, introduced in our apiary last season. No doubt a loss amounting to four per cent. will seem to the experienced bee-keeper, heavier than the regular percentage of the losses in introducing home-bred queens. But we have to remember that some of these queens died from disease caused by the fatigue of their long journey.

An indispensable precaution is to introduce the queen, as soon as the queen to be replaced has been taken from among the bees. If the bees hunt, during a few hours, for their queen, without finding her, it often happens that some worker-bees are so anxious to have the queen replaced, as to raise queen-cells. In such cases the safe introduction of the queen is doubtful. Sometimes the queen will be tolerated at first; but the bees will raise a queen of their own, and afterwards a few bees will swarm with the foreign queen, if the weather is convenient, or the queen will be ill-used by the bees, maimed, even killed, if the colony is too feeble to swarm, or if the weather is unfavorable for swarming. To cage in her hive for some hours, the queen to be replaced, can give the same bad results. But if you take the queen out of the hive, putting the foreign queen in the hive before the bees have remarked their absence, they will be unable to know the change, and your queen will have best chances of being well received.

It is sometimes possible to let the queen go directly among the bees without any precaution, but as in so doing, the most experienced can meet with no success, it is more prudent to use some precautions, especially for costly queens. For years we have introduced queens with water scented with peppermint. A few losses have deterred us from this *modus operandi*. This method is always successful with us in the honey season, if bees, combs, and hives have been well soaked with scented water; but in times of scarcity of honey in the fields, it results, sometimes, in losses, and according to my experience, it is to the presence of robbers in the hive that such losses ought to be attributed. It is impossible, in time of scarcity, to have a hive open for a few minutes, without being surrounded with robbers, especially if there are some sweets to be gathered. To scent all the bees, the combs, and the inside of the hive, it is necessary to put all out of the hive. The robbers are few at first, but they have all the time necessary to return to their hives, and to bring with them their comrades before the hive is closed and the tranquility restored. As soon as the scented bees recover from their trouble, they fight the robbers, and, too often they mistake the new queen for a robber, and kill her.

Whatever be the method used to introduce queens, the greatest care should be taken to prevent robbers from entering the hive at the time the queen is liberated. The necessary precautions are, therefore: First, to avoid letting the bees know that their queen is gone; Second, to use some stratagem to let the bees believe that the queen introduced, is their own queen; Third, to avoid the invasion of the hive by robbers when the queen is liberated. To fulfill these conditions, we search for the queen to be replaced, and as soon as she is removed, we put the queen to be introduced, in a cage, between two combs, directly above the brood, taking care to put her cage against some sealed honey so as to give her a chance of eating, in case that the bees would forget to nurse her. Then we close the hive, taking care to diminish the entrance, so as to help the bees against robbers. From 36 to 48 hours after, we open the hive, and, without removing the cage, we take out one of its stoppers and put in its place a small piece of comb-honey; then we close the hive. Our cages are made with a small piece of wire cloth, eight meshes to the inch, rolled on a bit of broom handle, with two bits of corn-cobs for stoppers. When liberating the queens, we act as quietly and as quickly as possible, so as to disturb the bees the least possible, and to give the robbers the least opportunity for entering the hive. While the bees gnaw the combs, the tranquility is restored in the hive, and the queen walks quietly among the bees. As the queen, after such a trial, can be easily frightened, it is prudent to leave her undisturbed for several days. Usually, we do not look at our introduced queens before six or seven days after they are liberated. We can then ascertain whether they are laying, and see if the bees have built queen-cells. I know of a good many valuable queens being killed by the bees by the fault of their owners, who were too earnest to see if their queens had been accepted by the bees.

A general and untechnical paper by Herbert A. Burch, of South Haven, Mich., was then read by the secretary.

(This paper will be forwarded in a short time.) Votes of thanks were tendered the authors of these papers by the convention, and they were ordered enrolled as honorary members.

Various questions were presented, and a "Question Drawer" was proposed.

The following gentlemen were chosen to answer the questions presented, with the understanding that upon difference of opinion existing among members of the Association, the question might be discussed:

The committee were P. H. Elwood, T. L. Scofield, G. M. Doolittle.

A committee to draft resolutions upon the death of Mr. Quinby was appointed, consisting of E. W. Alexander, J. H. Nellis, P. H. Elwood.

The Association then adjourned to Thursday morning at 9 o'clock.

During the evening an informal social session was held. Mr. Scofield, Vice-President, occupied the chair in the evening, when a free and easy conversation all around followed. The question of whether it is profitable to insert extra uncapped comb-honey in the center of the hive to incite breeding, was raised. There was a difference of opinion. Some favored the insertion of clean, empty comb, as this might be useful to the

queen, which is not the case with comb containing honey. It requires time for the bees to remove honey from the comb; time to insert the comb, and is an interruption to the operations of the queen. No one favored wholesale feeding, and few favored feeding at all for the purpose of stimulating brood raising.

Mr. Elwood would not feed liquid sweets to induce breeding, when the bees have sufficient stores in the hive.

If bees are short of honey in the spring, Mr. Doolittle would advise feeding the honey all at once, instead of a little daily.

Capt. Hetherington would feed rye meal in the spring, before pollen appears, for the purpose of inducing breeding. Use rye meal mixed with saw-dust to prevent their smothering in it. Such feed should not be placed far away, as it is desirable to keep the bees near the hive until all fear of cold weather is passed.

Mr. Betsinger thought that to feed anything before the 1st to 10th of May is a disadvantage, as it induces bees to stray away and perish. He is never troubled for want of pollen. He would like to exchange it for empty comb. In some localities pollen does not seem to be so plenty. Mr. Betsinger would give $10.00 for some plan to successfully extract pollen. He loses wax in getting rid of it.

Mr. Doolittle found that the excess of pollen comes from hard maple and wild grape blossoms. As white clover is not plenty in his locality, the bees get honey very slowly from it, so that they strain the comb by running over it. Where clover is plenty, no such trouble is experienced. He considers the bass-wood the great honey producer. It remains in blossom from three to twenty-one days. It is *the* honey tree—a cluster of blossoms sometimes contains one or two drops of visible honey.

Capt. Hetherington and Mr. Scofield expressed the opinion that cool nights are unfavorable for the development of honey in blossoms. Hence last season was a bad one. They notice that they get a good yield of clover honey when the clover seeds well, and of buckwheat honey when farmers have a good crop.

Mr. Betsinger wanted to know how far bees will go to gather honey. It is proved positively that they go two miles. In case of scarcity, Capt. Hetherington said they might go farther. He counts on their working over an area of a mile and a half radius, and locates his apiaries accordingly. Mr. Doolittle is sure they go of choice four or five miles, and gave facts that seemed to sustain the idea. Mr. Scofield was of opinion that his bees travel much farther west than in any other direction—probably because they catch the odors from that direction best.

Mr. Betsinger has noticed the field of operations of his bees, and is satisfied that they go at least seven miles away from home, and travel as fast as a mile in two minutes. Mr. Doolittle confirmed this statement. His Italian bees have been seen and lined from three miles beyond Skaneateles lake, which is two miles wide, and two miles southwest of his residence, a distance of seven miles.

Mr. Doolittle and Mr. Betsinger allow the bees to raise all the brood they can, claiming that while the hive is filled with brood, the bees will fill the boxes, and the more brood hatches, the more workers there are, and the more boxes will be filled. As fall approaches, brood decreases, and the comb is filled with honey for the winter use of the bees.

Thus these gentlemen get all the early and best honey in their boxes, and the bees feed on the last made and dark honey. By this practice, these apiculturists have been eminently successful. They use small frames. See the table.

Mr. Doolittle thought that more bees perish from going out in the spring and gorging themselves with cold water, thus chilling themselves, than from any sudden falling-off of the temperature of the atmosphere. They require water for the purpose of brood rearing; and it should be supplied to them, with the chill off, near the hive.

Capt. Hetherington was of the opinion that the appliances and improved system of management now in practice among advanced apiarists, secure three times as large a yield of honey as could be obtained six years ago, by the system then in general operation. He thought that from a judicious system of non-swarming, the best results are obtained, as the whole force of the colony is then engaged in the production of surplus honey. But in case the swarming fever gets possession of a stock, it must be broken up at once. This is best done by humoring them. In general management, to allow a moderate increase is much better than to undertake to suppress the swarming fever altogether.

At request of members of the meeting, Mr. C. R. Isham, of Peoria, N. Y., exhibited his new glass honey box, which was well received by the most experienced, and universally admired. It is thought this box will revolutionize the style of surplus honey packages.

SECOND DAY.

The very large attendance, and keen interest manifested, was evidence of the progressive tendency of the promoters of this growing industry. Since the organization of the several associations, experiment and discovery have increased the productive power nearly one-half. There yet remain many questions to answer, however; regarding some radical

points, there is as wide difference of opinion as that which separates the advocates of deep and shallow setting, or high and low temperature among dairymen. The student who shall discover an unfailing method of keeping bees during their dormant period will be a public benefactor. Practical men are studying the habits of the insect, and not a few have arrived at conclusions respecting temperature during winter, satisfactory to themselves.

This morning the roll was called, after which several new members were enrolled.

The Treasurer presented his report, by which it appeared that the balance in his hands is $79.39. A number of ladies were present.

As the "Question Drawer" was not ready to report, Mr. Nellis asked for a general discussion of the following questions:

Shall we encourage the use of the Honey Extractor, or shall we discard it? If we use it, to how great an extent?

He wanted to draw out the expression of this society, as many prominent writers and associations favored discarding its use.

C. L. Root, of Mohawk, presented his views. The extractor, he said, used in connection with boxing is indispensable. It is one of the greatest inventions in bee-culture. There are stocks which can hardly be controlled. The extractor compels lazy bees to go to work by withdrawing the honey. The best results with the extractor have not been attained. He had extracted largely for five years, and had had no difficulty in disposing of it. In practical shape, a market could be made for it at home. The distant markets are glutted. Canned honey, if genuine, will keep. We should develop our home markets. Some members had found it difficult to sell extracted honey at home; but it seemed to be the general opinion of the convention that good honey could be sold among the farmers. Mr. Root believed that stocks whose honey had been extracted went into winter quarters in much better order than when boxed. Brooding is largely increased by extracting.

Mr. Nellis leaves his liquid honey for sale on commission. If it candies, he takes it home and liquifies it by heating. Much will depend upon the market and the method of selling. Many find it difficult to peddle honey. It would be difficult to dispose of large quantities, without much exertion. He believed his liquid honey did not cost more than two cents per pound, as he could only count the expense of extracting and marketing.

This honey could not be obtained by any other method.

Some strong stocks are intent on swarming. By extracting, he procured honey from bees which would not work in boxes. Other stocks are too weak to work in boxes.

Captain Hetherington believed the extractor a useful instrument, which will never be abandoned. But stocks from which box honey is wanted, should not be extracted. In the fall, unfinished boxes can be extracted and the combs put in a cool situation for the bees to clean out. In this way the combs can be used to the best advantage in boxes the following season.

Bees do not work well in unfinished boxes kept over to be filled the next season.

N. N. Betsinger.—Will not the bees eat up the combs so exposed, and will not foul brood be disseminated?

Capt. Hetherington.—If the combs are put where the sun does not strike them, and the day is not too warm, the bees will not injure them. No foul brood will be disseminated by this process.

Mr. Nellis.—Foul brood is a terrible scourge. None but experienced bee-keepers should attempt this method, when they have reason to suppose that foul brood exists in their apiary.

N. N. Betsinger, on the other hand, believed the extractor to be ruinous to the industry. He could find no use for it in his apiary. It is instrumental in the spread of foul brood. But it had been the experience of Mr. Hetherington that the use of the extractor eliminated foul brood.

Mr. Root had found that freezing combs destroyed foul brood. The extractor may be safely used upon brood in all stages of development.

Mr. Nellis advised the convention to use the extractor principally upon weak and lazy stocks, and those troubled with the swarming fever.

Mr. Doolittle agreed with Mr. Betsinger.

The general conclusion seemed to be that the extractor is indispensable if properly used, and will not be discarded.

QUESTIONS AND ANSWERS.

The contents of the question drawer were then read by P. H. Elwood, of Starkville, chairman of the committee to which they had been referred. The answers to the queries presented were prepared by a committee of three practical bee-keepers, and we present them entire:

1. What is the best method of controlling the swarming fever? Answer—The free use of the extractor, or by making an artificial colony.

2. Is it an injury to bees to have more forage in the spring than they need for brood rearing? Yes.

3. Is it necessary to give bees a flight that are wintered in cellar or house? No.

4. Should bees have ventilation in

wintering; if so, how much? Yes; not as much as is generally given.

5. Side or top boxing, which is preferable? Two of the committee were in favor of top boxes; one was in favor of both.

6. Which is the better method of swarming, natural or artificial, where box-honey is the object, and you wish to double your stocks. Two of the committee prefer natural swarming; one prefers artificial.

7. Which is advisable to produce, box or extracted honey, when you have a ready market for either? Both.

8. Why do bees seal up cracks and openings in the hives? To retain the animal heat.

9. Should an excess of honey be removed from the hive in the fall or in the spring? In the fall.

10. How far apart should apiaries be located? From four to seven miles, depending upon the size of the apiary.

11. Is it important with the Italian bees that the guide combs in the surplus boxes extend from bottom to top of honey boxes? The more comb the better.

12. Why do bees leave their hives about the 1st of May? Discouragement from confinement, mouldy combs, or small cluster of bees.

13. What is the best method of preventing after swarms? Introduce a young, fertile queen.

14. How should a queenless stock be managed, when the keeper has no queen in the spring? Unite with another stock having a queen.

15. What should be done when in the case of an after swarm whose queen had been destroyed, and which had been returned to the parent stock, but which persisted in coming out day after day? Destroy queens until all save one is gone.

16. Upon what conditions does success in wintering depend? Good stocks in the fall; proper temperature and ventilation; perfect quiet.

17. Is there any sure cure for foul brood save the destruction of bees and comb? Yes, by preventing brood rearing, by the free use of the extractor, and by smoking the combs with brimstone.

A paper on "Ventilation" was read by P. H. Ellwood, of Starkville. He gave interesting instances of plant ventilation and absorbtion, and quoted from authorities to support his views.

(This paper will be forwarded to you, if possible.)

Upon motion of Mr. M. B. Warner, the association proceeded to select the next place of meeting.

The first ballot showed a large majority in favor of Syracuse. Syracuse was thereupon unanimously chosen as the next place of annual convention. After a brief discussion the convention adjourned for dinner.

MOSES QUINBY.

Upon the opening of the afternoon session Mr. Ellwood read a biographical sketch of Moses Quinby, the veteran apiarist, who died in May last at St. Johnsville. The sketch was an eloquent tribute to the memory of an earnest investigator, discoverer and honest man. Mr. Quinby had been President of the association for five years. An ode by S. Alexander, of Camden, suggested by his career, was read. Both papers were ordered printed in the report. Formal resolutions of respect were also adopted, as follows:

WHEREAS; We have been called to mourn the unexpected death of our honored brother, Moses Quinby, former president of this association—to whose exertions it owes its existence, and to a large degree its continued prosperity—therefore, be it

Resolved, That in his death, bee-keepers throughout the civilized world have sustained an irreparable loss, and bee-culture has lost its most practical writer and ablest expounder.

Resolved, That as his counsels have contributed so largely to our success as individual bee-keepers, we will endeavor to pay the debt of gratitude we owe him, by contributing to the success of what he considered his life work—the placing of bee-culture among the masses upon a sound financial basis.

Resolved, That, while we tender our heartfelt sympathy to the bereaved family, we realize that none but the family can fully understand the loss which they have sustained.

Resolved, That these resolutions be recorded on the minutes of the Association, and that they, together with an ode by S. Alexander, be presented to his esteemed family.

THE CENTENNIAL.

Letters from the centennial bureau of agriculture were read, inviting a full display of apicultural products.

On motion the matter of a representation of honey and bee apparatus at the centennial, was referred to the committee already appointed with the addition of 30 new members. The entire committee is as follows: Captain J. E. Hetherington, of Cherry Valley; J. H. Nellis, Canajoharie; P. H. Ellwood, Starkville; L. C. Root, Mohawk, and R. Bacon, Verona. Full authority to make necessary arrangements and to use the funds of the convention, was delegated to the committee. No other association of bee-keepers has taken action in this matter, and all responsibility rests with the Northeastern Association.

The few remaining hours of the convention were devoted to discussion, of some of the questions answered by the committee in the morning.

Mr. Bacon took issue with answer given by them, to No. 8. He claimed it was chiefly, if not altogether, to exclude the enemies of the bees, prominent among which, is the moth.

Mr. Elwood sustained the position of the committee, stating that bees do not use propolis until late in the season, after the ravages of the moth are nearly ended.

The Association agreed chiefly with the committee.

Mr. Nellis suggested that Mr. Bacon try the Italians and he would have no more trouble with moths. This led to a discussion of the merits of blacks and Italians. The Italians were generally conceded to be the best for all purposes.

Mr. Nellis said he would refrain from expressing a general opinion, as his purpose might be deemed selfish. He believed that where buckwheat is the only or principal source, the black bees will gather the most honey.

Question No. 15 was discussed. The answer was deemed inadequate. The fear was that the swarm might come out and start for the woods, when the keeper would probably fail to catch the queen. Mr. Betsinger recommended that the swarm be hived in a box and placed at the side of the old stock, within about two feet. In two or three days, at evening, shake the swarm on a sheet, hunt out the queen and return to the present hive. In the meantime, the bees of the old stock, being too weak to swarm, kill off all but one queen. The bees that marked the new stand, return to the old hive.

Wintering was discussed at considerable length, eliciting various opinions and methods, with instances of success to sustain each. The statistical table published herewith, speaks practically, and should be studied.

A majority favored using a moisture conductor, non-conductor of heat, upon the top of the hive. This class think too much draught of air is often given. Mr. Gates showed that his bees had no top ventilation, unless it came through the propolis and boards, and yet his bees wintered well. The secretary then alluded to Mr. Hoffman, of Fort Plain, and Mr. Bucklin, of Little Falls, who winter in the same way. Investigation shows that with Mr. Gates and the gentlemen named, the temperature never fell below thirty-six degrees Fahrenheit. The conclusion was that if no top ventilation is given, the temperature must not go down to the freezing point. Mr. Hetherington stated that Mr. Bucklin kept his bees long confined—to nearly the first of May. Mr. Gates and Mr. Bucklin warm their dwellings with furnaces, situated in the cellars.

Mr. Hoffman thinks the moisture which accumulates, is necessary to brood rearing.

The difference in the size and shape of frames—so long as they are convenient to handle—was deemed unimportant.

The Secretary was convinced that the difficulty, to a great extent, is a disease—not contagious, however. He cited many instances where bees formerly wintered well in the most exposed situations, and under most adverse circumstances, but now the utmost care and study must be given. He knows plenty of men who have kept many bees with no special care, for from 20 to 60 years, successfully, yet for the last three or four years they have had no bees.

The Association did not generally agree with him.

Mr. Bacon has no trouble in wintering bees; the trouble is in spring, when caught in cold snaps. He houses his bees; but last spring his losses were nearly all after the 6th of April. His neighbors, who kept their bees out of doors, suffered in the same way, in the spring. Brood was plenty at the time.

A gentleman suggested that bees be kept in a way to keep them quiet until the middle of May, when danger from cold is over.

If Mr. Bacon can get a day in the first of January and one at the end of February to set them out, and give them a good fly, he has no fear of dysentery.

Mr. Betsinger did not like the idea of handling and exposing bees in winter to fly, both on account of risk and expense.

One gentleman thought locality had a good deal of influence. In his locality bees cannot be wintered out of doors. Five miles away they winter well.

Mr. Betsinger is of opinion that many stocks perish because of the loss of the queen, which makes them uneasy.

Mr. Bacon says 60° is too high a temperature, and 20° too low. He prefers 38°. There may be reasons why others would do better with a higher or lower temperature. He puts a cloth, and four or five inches of cut straw over his bees to absorb moisture and prevent too much radiation of heat.

Mr. Nellis has better success with a temperature of 48°, but he uses no such absorbing material.

Very much of the discussion of the different sessions was not recorded.

On the following page will be found a very valuable table, showing at a glance what several of our prominent members have done during the past year, and by what management it has been accomplished.

Adjournment was taken subject to the call of the executive committee. The sense of the house, taken on motion, indicated a wish that three days instead of two be occupied by the annual convention in future.

J. H. Nellis, Sec'y.

NORTH-EASTERN BEE KEEPERS' ASSOCIATION.

TABULAR STATEMENT OF OPERATIONS FOR THE PAST SEASON.

NAMES.	SUCCESS IN WINTERING. No. of St'cks Fall, 1874.	No. of St'cks Spring, 1875.	Condition in spring.	Where Wintered and the Temperature.	Manner of Wintering briefly expressed.	SUCCESS OF THE SEASON'S OPERATIONS. No. of Stocks. Spring, 1875.	Fall, 1875.	In fall. Italians.	Blacks.	Name of Hive.	Number and Size of Frames.	Am'nt of honey produced. Box.	Extracted.	Amount of Wax.	Extra Queens reared.	Principal sources from which honey was gathered.	Average value of the honey season.	Amount of sugar fed, fall, 1875.
E. F. Wright	22	21	g*	Cel., above 32‡	No top vent'n—entrance open	21	58	36	22	Cross bar	8 frames, 11x17	1,700	....	..	...	White clover	Mdm.	....
R. Bacon	128	87	w	Bee house, 38	5 in. cut straw on top—ent. open	87	130	1	129	Green's Imp	8 fr., 9½x17 & 11x15	2,620	600	36	...	W. clo. & buckwt.	"	....
F. H. Gates	45	35	w	Dark cellar, 42	Little top ventilation	35	55	25	30	Plain frame	8 frames, 10x16	1,000	70	..	..	Clo., cat. & buckw.	Poor.	....
Joseph Stetsil	20	20	g	Cellar, 30 to 40		20	45	....	45	Quinby	8 frames, 11x18	200	....	..	...	White clover	Good	....
S.& E.W.Alexander	80	50	w	Cellar, 33		50	77	....	77		12 frames, 12x12	200	1,900	50	...	W. bassw. & buck.	Poor.	....
M. B. Warner	...	3	w	Out doors		3	7	mix	...	Standard	14¼x14¼	50	100	5	...	White clover	"	15
J. H. Nellis	38	26	w	Cellar, 30 to 44	Quilts on and entrance open	26	47	47	...	Old Quinby	8 frames, 10½x18	717	642	5	211	W. clo. & buckwt.	Mdm.	....
Sol'n Vrooman	100	66	w	Cellar, 30 to 40	Quilts on—straw on sides	66	90	30	60	New Quinby	7 & 8 fr, 11x16½ & 15x15	2,900	350	25	50	Buckwheat	Poor.	....
J. E. Hetherington	420	190	w	Cel. & ho. 40 to 45	No top vent'n—too much at btm.	410	630	120	510	New Quinby	8 frames, 10½x16	11,200	2,100	..	...	Buckwheat	"	4200
J. A. Burdick	31	17	w	House	Top ventilation	17	27	25	2	Sisson	8 frames, 12½x12½	....	778	14	...	W. clo & basswood.	"	....
W. Bacon	4	3	g	Cellar	No top vent'n—entrance open	3	6	....	6		8 frames, 10x18	100	....	..	...	Clover & buckwt.	Mdm.	15
N. N. Betsinger	148	116	m	Out doors	Q'lts&str. m'ts on top—hive tight	115	212	212	...	Betsinger'sImp	8 frames, 9x14¼	6,500	....	..	...	Bassw.,tea.& buck.	"	....
C. T. Rongeop	16	12	g	Cellar, 22	Just as on summer stands	12	26	....	26	Union	7 frames, 10½x16	800	....	15	...	Clover & buckwt.	"	....
Lewis Baird	33	33	g	Cellar, 46	Quilts on—five over cellar	33	39	32	7	Langstroth	10 frames, 8⅜x16¾	4,326	350	5	22	Clover & buckwt.	"	....
D. H. VanAlstine†	65	52	u	Cel. 35 & out doors	Quilts on—front raised 1 inch	52	60	60	...		8 frames, 10x15	3,400	1,000	16	7	Buckwheat	Poor.	....
M. H. Tennant	60	47	g	House, 43	Top shut—ventilation on sides	37	60	....	60	Union	8 frames, 10x17	4,420	200	..	...	Clo., lind. & buck.	Good	....
D. L. Betsinger	11	10	g	Out doors	Top ventilation.	10	20	....	20	Langstroth	9 frames, 9⅞x16⅝	350	....	..	...	Basswood & buck.	Poor.	....
E. D. Clark	16	16	m	Clamp, 41	Little top vent'n—ent. open ½	18	37	mix	...	New Quinby	3 to 16 frames, 10½x18.	1,020	300	..	...	Clover & raspberry	"	150
Dr. J. R. Pratt	50	28	w	Out doors	Packed over and side of frames.	28	47	12	35	Quinby	8 frames, 12x17	600	500	80	...	Clo ,lind.&goldnrd.	"	200
Isaac Wilmarth	61	46	g	Cellar, 42	Ventilation top and bottom	47	83	....	83	Kidder	9 frames, 12x12	825	....	20	...	Clo. & basswood.	"	....
C. D. Jones	29	27	g	Cellar, 40	Carpet, etc., over frames	27	32	16	16	American	10 frames, 11½x12½	1,925	375	8	...	Clo. & buckwheat.	Mdm.	....
I. C. Scofield	50	34	g	Cellar, 40	Quilts over frames	44	60	60	...	Langstroth	10 frames, 8¼x17	4,032	748	..	37	Clo. & buckwheat.	"	....
G. M. Doolittle	106	46	w	Out doors	Quilts on—entrance closed	46	106	106	...	Doolittle's Imp	9 frames, 10¾x10¾	4,848	30	35	150	Bass., tea. & buck.	"	....
C. R. Isham	...	...	....			55	....	....	...	Frame		2,600	400	..	...		Poor.	....
J. Hoffman	105	105	g	Cellar, 36	No top ventilation—ent. open	102	142	20	122	Hanging frame	10 frames, 10½x13	4,200	400	5	...	Clo. bass. & buckw	Mdm.	200
L. C. Root	121	119	m	Cellar, 48		119	130	65	65	New Quinby	7 frames, 11½x19½	2,098	2,457	..	...	Basswood	"	....
C. C. Van Deusen‖	72	55	u	Cel., 45 & out drs.	Feed, if nec'sary-have good qns.	85	78	mix	...	New Quinby	9 frames, 11⅛x16¼	3,225	600	..	...	Clo. & buckwheat.	Poor.	....

* *g*, good; *w*, weak; *m*, medium, and *u*, uneven. † Mr. VanAlstine's wintered well out of doors. ‡ Degrees, Fahrenheit.
‖ Mr. Van Deusen is wintering about twenty nuclei, each having from one to seven frames.

Report of the Centennial Committee of the North-Eastern Bee-Keepers' Association.

The committee to whom was referred the matter of making proper arrangements for inducing bee-keepers to display their bees, honey and apiarian implements at the great National Centennial, wish to announce that they have held correspondence with several parties in relation to the matter, and finally received communications directly from Capt. Landreth, Chief of the Bureau of Agriculture.

We find that gentleman very courteous and exceedingly anxious that every means be used to induce bee-keepers to make a good display—equal to that made in all other branches of agriculture—and commensurate with the importance of the industry.

He reports to us that very few entries have been made in the "Centennial Proper." It is well known that articles to be exhibited in it must be on the grounds April 19th, 1876, and remain through the entire exhibition—about six months. We informed him that honey that was gathered last season would not be in condition to exhibit; and if it was, could not be kept in good condition for so long a period.

These facts led to the establishing of special shows, and we cannot do better than submit herewith a letter just received from Capt. Landreth, bearing upon this subject.

"U. S. CENTENNIAL COMMISSION,
Philadelphia, Feb. 18, 1876.

J. H. Nellis, Sec., N. E. Bee-Keepers' Association:

SIR:—Your letter of inquiry of Feb. 12th, has been received, and I now proceed to reply to the questions in their serial order.

During the entire six months of the International Exhibition, working bees and apiarian apparatus, in all its ramifications, will be on exhibition, and honey and wax as well.

But to afford additional opportunity to bee-keepers, it has been decided to have two special displays of honey and wax; viz.: June 7th to 15th, and Oct. 25th to Nov. 1st.

The continuous exhibition will be made in the large Agricultural Building; the special exhibitions will be made in an adjoining structure, to be known as the Agricultural Building for special displays.

The Apiarian Exhibition commencing June 7th, will be held in connection with the display of strawberries, and that commencing Oct. 25th, in connection with the display of nuts.

Though apiarian apparatus will be exhibited during the entire season, still it may be considered appropriate to allow the entry of such implements and fixtures as will be necessary to make clearly manifest the methods of proceedure, to accomplish the results represented.

In neither of the seasons of exhibition will there be a charge for space, nor an entry fee. Each worthy exhibitor will have, during the season of his display, free entry to the exhibition, and will be required to assume all charge of his articles.

The Centennial Commission levy a tax of fifteen (15) per cent. on the gross receipts of all articles sold within the exhibition grounds, and from this rule no exception can be made.

Though premiums, consisting of medals and diplomas, will be issued by the Centennial Commission to the exhibitors of the most meritorious articles in all classes, still it is considered highly desirable that Apiarian Societies, Journals and Individuals should offer special prizes, and in this they have already the precedent of special prizes to the value of over five thousand dollars, now offered for other displays of agricultural character.

May I not look for a special prize from your Society?

In relation to the exhibition of working bees, I have pleasure in informing you that two parties have applied for space and furnished drawings and specifications for House Apiaries, each to contain from ten to twenty hives.

BURNET LANDRETH,
Chief of Bureau.

From the above letter it will be seen that we have no positive assurance that hives, honey extractors, knives, bee veils, honey boxes, etc., etc., can be exhibited at the special shows. We, therefore, recommend that those having a desire to exhibit Apiarian wares, shall make immediate application to Capt. Landreth for space, or information concerning the same, that their articles may be in place April 19th.

The rules governing this exhibition are very liberal, and as none of us shall see another National Centennial, it is certainly to be hoped that a grand response will be made.

In our next report we hope to announce what special prizes are to be given, and for what articles or objects. In the meantime, we hope to receive communications from parties throughout the country, relative to prizes they are willing to offer for special purposes or displays.

We will be pleased to hold correspondence with any person who may have suggestions to make, or information to give, so that the Bee Department may be fully an equal to the other industries that will be there so fully represented. As no other societies have taken steps to the development of this scheme, we hope they will

fall in with us and give all the assistance in their power, as a perfect success should be mutual to the entire brotherhood.

J. H. NELLIS, Sec'y.
J. E. HETHERINGTON, Chairman.

For the American Bee Journal.

Sundry Items.

"The February number just to hand. This is as we like it. The Journal, Magazine, and Gleanings are usually on hand within a few days of the first of the month it calls for; would that '*The World*' could be induced to be equally as prompt.

"We have had a very remarkable winter. The coldest day was Saturday, Dec. 18th; the thermometer ranging at 14 degress on that day; the next being Friday, Jan. 14th, thermometer, 20 degrees; from these it has ranged up to 60 degrees. Fully two-thirds of the weather has been clear and fine, having but little rain and only one slight sprinkle of snow, which was on the 9th of December. You and your readers are doubtless aware that we, in this latitude, winter our bees in their summer stands, so you see, from what I have said of the weather, that our bees have been able to fly out very near the whole winter. We have about 60 colonies in our queen-rearing yard, and so far have lost only three. The first lost was one which we had purchased in a box-hive and had not transferred: it was taken by the moths, Nov. 19th. The next we discovered was Jan. 13th, which went up for the want of stores; this, also, was a recent purchase. The last was on Sunday, Jan. 23d, which was by a "leave-taking," and to us, a very mysterious one. The day was a very fine one, but windy. We had taken a stroll around the hives, but discovered nothing unusual: returned to the house and was seated upon the doorsteps, when a neighbor came up and asked if we had lost a swarm of bees, to which we replied, that we had not, but in company with him took another stroll among the hives, still finding nothing wrong. We then went with our neighbor to his house and found that a swarm had entered one of his hives, and a "big fight" was going on, with hundreds of the killed and wounded strewn around. We now returned to our yard and made another examination: we soon came upon a hive beseiged with robbers, a considerable fight also going on, and now and then a bee entering with pollen. We opened the hive and found it totally deserted, yet containing plenty of honey, both capped and uncapped; also pollen in abundance, and eggs and brood, both sealed and unsealed, showing that they were not queenless, nor in a destitute condition. The queen of this colony was one of my own rearing, having hatched in August; was fertilized and laying, Sept. 5th: she was very prolific. Now will some one inform me why she took her departure?

"Friday, Jan. 21st, made an examination of the most of our hives; found the majority of the queens laying, and all with ample stores. Our truant queen had sealed brood, and by this time, probably, has young bees nestling about her."

WM. J. ANDREWS.
Columbia, Tenn., Jan. 26, '76.

For the American Bee Journal.

Visiting.

On a beautiful morning in August I found myself in Hamilton, Ill. I went there on a visit for which I had longed for several years. From the various articles I had read, I anticipated that I was soon to see an apiary, whose equal was not to be found in America. Nor were my expectations doomed to disappointment. By a little inquiry, I found that the Messrs. Dadants lived about two miles north of Hamilton, on a little stream known as Chenny creek. Just a nice morning walk all shaded by beautiful little trees, quite a quantity of which were Linden. The path crosses the creek quite a number of times. The water is almost as clear as crystal; it runs over the rocks very swiftly. In some places it runs by high ledges of rock, out of which numerous springs of pure, cold water flows. The largest of these, is called "Wild Cat Spring" and is known for miles around. It is the favorite pleasure resort of hundreds of people of Keokuk. It issues from a large cave and affords hundreds of gallons of water per hour. The water is conducted through large wooden troughs and falls in a large artificial reservoir. A pretty grove right by the side of it is surrounded by a cute, rustic fence; here and there ladies and gentlemen are seen strolling around playing croquet or other games. The path, after leaving this spring, passes by one or two cottages before coming to the home of the big bee man of Chenny creek.

After leaving the last cottage it is but a very short distance; the view on both sides of the path being cut off by a dense growth of shrubs, until you find yourself by the side of a regular liliputation city with about a hundred and eighty houses almost all alike except that they are painted different colors. The apiary is situated on both sides of a point of a hill; the greater part of the apiary slopes to the southeast, the remainder to the south. Just at the north edge of the apiary they are building a new house, I presume Mr. Dadant, Jr., expects to import a queen to introduce into it, for he assured me that imported queens were the best.

I was highly pleased to learn that they expected to receive an invoice of queens the next day, I accepted the pressing invi-

tation to stay and see them. As they did not come early in the morning, C. P. Dadant concluded that he must go to an apiary some fifteen miles down the Mississippi (for they only live about a mile from the river) and put on honey boxes, as they were just getting their first yield of honey for the season. But when we arrived at Hamilton, he found that the queens had arrived and been sent out to him; as he had the whole care of the apiary, he concluded to go back and introduce the queens; when we got back they were not yet unpacked. There were twenty-two in the invoice; in some of the boxes every worker bee was dead, the queens alone being alive. While Mr. Ch. Dadant unpacked and caged them C. P. and I introduced them; they do not lose more than one or two out of a hundred in introducing. They simply confine the queen about forty-eight hours, then having liberated her do not disturb the hive again for a week. This was the eighth invoice of 22 queens each, they had received this year, but since they have received three more invoices which are all they get this year; the whole number of queens they have received is 236, out of this number about 80 were lost in importing, six or eight in introducing.

Receiving queens thus every two weeks they are enabled to supply the place of queens shipped to their customers and to cull out as worthless, every queen which does not produce bees of the highest grade of purity. In the afternoon we took several of the best of the queens taken out, to make room for the imported ones, to an apiary right on the bank of the river some five miles above their home apiary. This road leads by some of the most delightful scenery I ever saw. It runs along on the bank of the river just above high water mark; at last the road twists and winds around through a ravine till you find yourself on top the high bluff before a pretty little French cottage, beside of it are over fifty hives on a steep south hillside; here C. P. overhauled all these hives, putting on quite a number of boxes and introducing ten or fifteen queens in about two hours. After partaking of a splendid supper we returned to Chenny creek by moonlight, enjoying a good ride. This was one of the most pleasant days that ever fell to my lot to enjoy.

The next morning I concluded to see the lower apiary, having again hitched to his wagon-load of honey boxes, his lively horses soon brought us to an old farm house with a steep hillside dotted with Quinby hives; here we found quite a number of boxes filled with honey. C. P. thinks this is the finest location for an apiary he ever saw. Right in front of it are thousands of acres of low bottom lands covered with wild flowers of all kinds. His boxes being put on, and quite a number of new colonies having been made, we returned to their home apiary. As I bade adieu to Chenny creek I felt well repaid for my visit, only wishing that such apiaries were more numerous.

A. N. DRAPER.

Upper Alton, Ill., Jan. 12, 1876.

Voices from among the Hives.

SIDNEY, IOWA.—Jan. 12, 1876.—"During the past winter there has not been over 10 days at a time that bees could not fly. For the past three weeks they have been out nearly half the time. A neighbor of mine lost one or two swarms the first cold snap, by starvation, with the lower part of the hive full of honey. He had extracted from the upper story and the bees clustered among the empty combs. When the cold came on, not being able to reach the honey, they starved. In the October number, H. Nesbit reports an increase of 545 colonies from 32. That beats the world. I would like to have a description of his management." L. G. PURVIS.

WENHAM, MASS.—Feb. 15, 1876.—"Bees are wintering well. We have had a very mild winter, and bees have had a chance to fly as often as twice a month."

H. ALLEY.

SCHOHARIE CO., N. Y.—Feb. 11, 1876.—"I like the JOURNAL much, and hardly see how I could get any success without it. I have 70 swarms and they are all wintering well." GEO. VAN VORIS.

CEDAR CO., MO.—Jan. 29, 1876.—"I am well pleased with THE AMERICAN BEE JOURNAL. I can't well do without it. My bees are still in winter quarters, and are in good condition. I have purchased several box stands this winter and expect to make 50 new Langstroth hives this season—have 20 of them done now. I expect to increase to 75 or 80 colonies, if the coming season should be a good one."

J. F. LYNN.

COLUMBIA, TENN.—Feb. 14, 1876.—"I examined several hives yesterday, and found quite a number of young bees and drones in a hatching state. Will have drones flying in a few days."

WM. J. ANDREWS.

TAMA CITY, IOWA.—Feb. 9, 1876.—"I put 104 swarms in basement cellar last fall. They are doing well—all but one very weak swarm. About one-half of my bees are Italians." W. E. NEWCOMB.

NORTHUMBERLAND, CO., PA.—Jan. 18, 1876.—"I went into winter quarters with 15 stands. Last year I saved only 10 out of 24 I don't know what causes the bees to leave the hive in May, with plenty of brood and honey, and a clean hive. Three of mine did so on May 8th."

W. H. GARIHAN.

CLINTON Co., ILLS.—Jan. 21, 1876.—"Yesterday I noticed the ground nearly covered with dead bees in front of one of my September swarms, and on examing them I found that many of them were young bees, some of them almost white, though apparently perfect, but I thought they looked very large for worker bees. To-day being pleasant and the bees flying freely I thought I would look into them. They are in an old box hive of about 2,000 cubic inches (I had run short of frame hives) about three-fourths full of comb. I turned up the hive and smoked the bees; to my surprise the drones began to fly out quite lively and from what I could discover, the foul center combs appear to have been full of drones for several inches in height, and there are a good many yet in the worker cells. I could not discover a drone cell in the hive. There are plenty of worker bees, and honey enough to last them till spring if they drive out the drones which they appear to be doing pretty fast. There has not been a week at a time this season that my bees have not been flying, and some of them have carried in loads half the day, the one spoken of above, being among the busiest. I think some of the old hives have not taken in anything though flying as lively as those that do." C. T. SMITH.

COLUMBIA, TENN.—Jan. 21st, 1876.—"We made an examination of our hives to-day, found they all had plenty of stores, and a large majority of the queens laying. Our Dadant queen had sealed brood, so we will have young bees in a few days. Every mail is bringing us letters inquiring how soon we can furnish queens. We will have new queens by April 1st, or sooner. These letters are called forth by our advertisement, as we have not sent out any circulars, except in response to correspondents." STAPLES & ANDREWS.

BOONE Co. Mo.—Feb. 12, 1876.—"Bees safely on their summer stands; 120 colonies all in perfect health; combs as bright as the day they were housed; without the loss of a single colony; fewer bees lost during their first flight than ever before." E. C. L. LARCH.

MILLEDGEVILLE, ILL.—Jan. 17, 1876.—"We received the chromo all right. It more than met our expectations. It is simply beautiful. We never saw such a good present given to a single subscriber to any paper. Our bees (35 stocks) are wintering well, so far. We put them in the cellar Oct. 29, about four or five weeks earlier than ever before. By the way, we have been reading the proceedings of Michigan Beekeepers' Society. A paper was there read from Mr. A. Salisbury, which I would be glad to see published in the A. B. J." F. A. SNELL.

[We will publish it if the Secy. or Mr. S. will forward it.] PUBLISHER.

BARNES' CORNERS, N. J.—Feb. 5, 1876.—"We had but 15 colonies, last spring, left from 41 put into winter quarters, and 12 of these died before June 10th, leaving but three swarms—one very weak. They did not starve; and I attributed their demise to the late honey gathered. Perhaps they did not cap it, and that may have been the cause. They were wintered in a building used for several years for that purpose. It is a double walled brick, filled in with sawdust. The last season was a poor one." A. S. LUCAS.

SAN PATRICO Co., TEXAS.—Jan. 18, 1876.—To-day, my bees are gathering pollen and honey. Only three light frosts this winter, so far. This, though, is not usual at this season, even here. I am a little South of 28° N. latitude.

JOHN W. BAYLOR.

PEORIA Co., ILL.—Jan. 3, 1876.—"My Italians were at work on Jan. 1st, very busy; all day they came in loaded down, very often being unable to reach the hive from sheer exhaustion. I watched them for a long time, and saw dozens of them drop into the grass within a rod or two of the hive, and on going to them, found that they invariably got up and went for the hive lively after a minute or so of rest. They appeared a third larger on their return to the hive than when they started out. There is a grove of willows about a half mile distant, to the northeast of my place, and as they invariably came and went in that direction, I imagined that the past week of very warm weather had opened them a pasture in that grove. Isn't it very unusual for bees to find anything to work on, or to have a disposition to work at this season of the year?

GEO. M. PIPER.

TRUMBULL Co., OHIO.—JAN. 20, 1876.—I have made a pair of scales for weighing honey, hives, etc., on the plan of grocer's tea scales; length of beam 30 inches, made out of two pieces of old buggy springs. I intend to use them to set a hive on next season, so as to tell at any time whether they are gaining or losing. The scale can be balanced by bricks, stones or anything else. One set of weights, from a 4 lb. to 1 oz. will be enough, or balance the hive on the scales and hang over a small spring balance attached to the hive, which will give the amount gained. I am now making a pair all wood, except the centres, which are steel, that can be made for 25 cents. Any one that can make a hive could make a pair of scales. I could make the centres, if desired. If I thought scales would sell, I would get up patterns and make a good scale for weighing hives or honey. I coax Italian bees to work in boxes by sticking a piece of comb on the bottom of the box, and the bees will work up. Try it. J. WINFIELD.

NAZARETH, PA.—Jan. 24, 1876. — "I have kept bees for 52 years, and still take much interest in them. It does not pay in our section, as the farmers have discontinued raising buckwheat. This winter is a favorable one for out-door wintering, being mild, with no snow, so far."

WM. CHRIST.

CAMARGO, ILL.—Feb. 19, 1876.—"My bees are wintering finely; but my success, for years past, in this respect, has been so uniform, I always expect success after placing them in winter quarters."

A. SALISBURY.

KALAMAZOO, MICH.—Feb. 1st, 1876.—In the February number of the JOURNAL, in the discussions of the Maury Co. Bee-Keepers' Society, upon feeding, different articles were spoken of, as rye, flour, corn-meal, etc. Some years ago, I had two colonies that became destitute of honey early in March, and with a view to prevent starvation, I commenced feeding syrup made from coffee sugar, poured upon a warm buckwheat cake, feeding upon alternate days. They would eat the cake more or less, sometimes entirely. They bred up very rapidly, and were the strongest colonies I had in my apiary that season. I now believe that the cakes furnished proper food for breeding purposes, in the place of pollen, and shall experiment with it the coming spring. I would be glad to have bee-keepers try it, and report through the JOURNAL.

W. B. SOUTHARD, M. D.

WAVERLY, IOWA.—Jan. 28th, 1876.—My bees have done well the past season. Out of four stocks I obtained twenty-one natural swarms, all in good condition, and sold $25.00 worth of honey.

THOS. LASHBROOK.

FREMONT CO., IOWA.—Feb. 7, 1876.—The past season opened very unfavorably. Last spring I took out only twenty-nine colonies out of forty-five that I put in the cellar in the fall. Nine of these were weak; twenty good. As soon as the weather would permit, I commenced feeding them syrup made of C sugar, and by the last of June I had fed $19 worth of sugar. Linn bloomed the first of July. My bees were very strong, and occasionally a swarm would come off in spite of my vigilance to prevent it. About a week before the linn bloomed, I thought we should have a grand honey-harvest, but it rained so much that the bees got but little honey. One day only was fair during linn bloom, and I weighed some of my colonies in the morning, and again in the evening, and found they had gained twelve pounds. If the weather had been good, I can't tell what would have been the result, for linn bloomed profusely here.

The fall was good for honey, and I find, from my books, that I increased from twenty-nine to forty-six, and have taken 3650 lbs. of honey; all of which I have sold at an average of 19 cts. per pound. I think bee men make a very great mistake in placing their honey on the market in large cities. I sometimes leave some in the stores where I trade, but I sell nearly all among the farmers. I can sell more in one week, out in the country, than I ever sold through the merchants in town all put together. I sell at 18 cts. by 50 or 100 wt., and 20 cts. in small lots. My bees are in excellent condition; they have honey enough to keep them until July.

WM. MORRIS.

FLAT ROCK, N. C.—Feb. 25, 1876. My bees commenced to bring in pollen from off the alders on the 18th of January, and on the 22d they commenced to bring in honey and pollen from the soft maple, and honey from the bee-meadow. I never knew it to bloom before April, till this year. The bees are doing well on the maples any days that are warm enough for them to be out. My bees have done well, so far: lost only two, out of forty stocks.

ROBERT T. JONES.

OWENBORO, KY.—Feb. 1, 1876.—"Bee pasturage is probably as good in Ky. as any other State, except California. We have abundance of tulip and white clover in spring, and smart weed in fall; these are our main dependence. We have others as helps—as many, probably, as in any other State. We have 6 or 8 large apiaries in this country that have from 30 to 100 stands, owned by men who keep bees on scientific principles and are doing a fair business, besides many bee-hive men, who are doing very well. We got no surplus last year, a frost (April 1st) killed all kinds of bloom, and then it rained from May 1st till August 20th. Our bees, at the time they should have been working in boxes, were starving to death, but by uniting and feeding, we managed to save about two-thirds of them in good condition, having a good honey harvest in the fall. They are now in fine condition and have been rapidly carrying in pollen for 20 days from hazelnut and alder. Such a thing was never seen before in this country. I examined my strongest stands to-day, and found brood in all stages and eggs in drone comb. I shall try to get the drones out as a curiosity. The hives mostly used in this country are the Langstroth and Buckeye. We have some Extractors, but do not take honey for profit, as the honey does not sell, and besides that, we do not like to sling our bees. I take honey in small frames, and sell it at 25 cents per lb in the home market. I like the way James Heddon talks; his theory corresponds with my experience, and I think he must be a man with a 'head on.'"

T. E. GRIFFIN.

PITTSBURGH, PA.—Feb. 9, 1876.—"The honey market has been very dull, honey being a luxury does not find ready sale during such an exceedingly hard season as the past one has been in this section. We hope for a better trade in such goods this year. Our supplies with the exception of a few small lots from Virginia have been brought direct from the Pacific coast." JESSE H. LIPPINCOTT.

WORCESTER CO. MASS.—Feb. 16, 1876. —"I keep a few swarms of bees, not for profit, but for the pleasure of seeing them work and taking care of them. I very seldom lose a swarm. I winter them on their summer stands and take the whole care of them. I go among them without fear and am but seldom stung. White Clover is our chief honey plant. I find THE AMERICAN BEE JOURNAL very interesting." MRS. EDWARD BROWN.

CARLYLE, KANSAS.—Feb. 23, 1876.—"In 1874 bees were an entire failure here, and in 1875 they were not much better. Last fall they stocked up some, but made no surplus honey. We scarcely ever get any surplus honey here until smart weed, Spanish needle, and corn are in bloom. Some seasons there is considerable buckwheat sown, then bees do very well."
JOEL B. MYERS.

ELIZA, ILLS.—Feb. 19, 1876.—"On page 15 of AMERICAN BEE JOURNAL, in the description of section box the upright side-pieces should be 6⅞ inches, instead of 1⅞. The ½ inch mortice is cut by a saw so set as to wabble. The ½ inch thin strip is laid in these mortices so as to hold the frames in a box. In answer to J. E. of Kansas. It is not like the boxes described on page 108 of AMERICAN BEE JOURNAL 1875, but these frames make a continuous tight box except on the bottom and ends. When these frames are put together there is on each side a continuous groove, in which the thin strip fits; this being tacked at each end holds them all together. Be careful to have this stuff cut out *exactly* as given in AMERICAN BEE JOURNAL, page 15. Honey put up in these frames when nicely made has brought us 5 cents more per pound. When filled with honey one of these boxes will hold about 25 pounds, and yet the frames can be taken apart and one comb sold weighing 2 pounds, or 1 pound, if frame is small enough. Clark and Harbison do not use any glass in ends. I wish to—will some one inform me through AMERICAN BEE JOURNAL how to do so." D. D. PALMER.

Please write names and post-office address very plain. Very often men forget to give their post-office, and quite often a man dates his letter from the place where he lives, when the paper is to be sent to some other office.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, APRIL, 1876. No. 4.

The Future of the North American Bee-Keepers' Society.

A few words on the above subject from one of the originators and ex-presidents of the North American Bee-keepers' Society will not, we are sure, be considered presumptuous or unwelcome by the readers of THE AMERICAN BEE JOURNAL. We are not at all surprised at the proposal being deliberately made and seriously entertained, to disband the Society, and should this course be ultimately adopted, it will not follow that the organization was a mistake or a failure. It has done much to make prominent bee-keepers acquainted with each other; to diffuse apiarian information; to promote scientific and practical apiculture; and to draw public attention to various important matters connected with the honey interest. To many of us, the meetings of the Society will always be memorable as having led to the formation of friendships that we highly value, and that have taken a wider range than the realm of bee-keeping. We shall not forget that they gave us the opportunity of knowing the forms and listening to the voices of Langstroth and Quinby, one of whom, alas! is not, and the other is feeble with infirmity and age so that he cannot be long for this world. The private and unpublished discussions by little coteries of bee-keepers, at hotels and elsewhere; the interchanges of experiences, some of them too mortifying to be told to "all the world and the rest of mankind," and the ventilation of plans and appliances too crude to be given to the public, as yet, must count among the minor, but by no means inconsiderable, benefits of the meetings in question. We doubt if any member was at so large an expenditure of time and money to attend these gatherings, as ourself, but most certainly we do not regret the outlay. But, as President Zimmerman justly observes, the times are changed. Bee-keepers now have to "pay like sinners," on the railroads, whereas, in other and better days, they traveled at reduced rates. Editors used to get passes, where now they receive the cold shoulder instead. Time was when we could go on any railroad in the Dominion of Canada "free gratis for nothing," now there is only one road, and that a short one of only 26 miles, on which we can get even half fare. Even with the privileges once accorded, it was rather a costly luxury to attend the annual conventions. Some of us went when our wives, and our better judgments, too, told us we "hadn't oughter." And we stayed away, in rare cases, not because we didn't want to go, but under the same influence that prevented the rural worthies, immortalized in Grey's Elegy, from realizing their aspirations:—

> "Chill penury repressed their noble zeal
> And froze the genial current of their soul."

President Zimmerman chronicles the formation of a Bee-keeper's Association for the State of Ohio, and wisely advises other States to go and do likewise. There is a flourishing Northeastern Bee-Keeper's Association which practically represents the State of New York, and really has its headquarters in the vicinage of the Mohawk Valley, having had until recently, the late Moses Quinby as its chief inspiring spirit. Michigan has also its B. K. Association. We heartily endorse Mr. Zimmerman's recommendation about the establishment of State societies. Every State, province and territory should have its apicultural organization. But we desire to supplement Mr. Z.'s advice, with the suggestion, that the North American B. K. Society should actually become, what some of us contemplated from the outset, a representative body. The records of the Society's past meetings will show that this idea is by no means a

new one. It would doubtless have been carried out before this, but for the paucity of State organizations. Let these only be multiplied to a sufficient extent and it will be easy to make the continental body representative, which is obviously what it ought to be. Each State could send one or more delegates, and what is an oppressive expense to the individual bee-keeper, would be but a small charge on the funds of a State association. We can see important results to be secured by a council of eminent representative bee-keepers, and our hope is that the Society, instead of voting to disband, will resolve itself into the representative body above described. A meeting at the Centennial Exhibition would be a favorable opportunity for making this change, although we are of opinion that the circumstances will not be favorable for having a business meeting. Those of us who go to the exhibition will do so to enjoy ourselves, and have a good time generally; to forget bee-stings, apiarian troubles, and the vexations of life generally. A re-union with apicultural friends will be pleasant, but business will be a bore. It will be a much nicer thing for the Society to take on a new form of life at the Centennial than it will be for it, there and then to "give up the ghost." For our own part, our motto is, "Never say die." Make a new departure, strike out afresh, do something more manageable and practicable, but avoid that which is undesirable in itself, and would be interpreted by outsiders as a proof that bee-keeping is on the decline, which we know it is not, by any means.

The Society has got over some difficulties which threatened its earlier stages; it has accomplished much good, but its mission is by no means fulfilled. "To be or not to be, that's the question." We cast our vote for continued existence in a better form. "Destroy it not, for a blessing is in it." W. F. C.

☞ Particular attention is called to the new advertisement of J. H. Nellis & Brother, opposite the first page of this issue of the JOURNAL. They are good square dealing men and may be depended on.

For the American Bee Journal.

Artificial Comb Foundation.

Will you be kind enough to give some information on the artificial comb question? Who holds the patent right for making artificial comb? Is the comb foundation, sold by John Long, patented? Who first brought comb foundation to notice? I saw a piece, years ago, made of this paper, coated on both sides with wax. A friend who tried it reported that his bees would not make use of it.

W. C. P.

The foundation spoken of by Mr. P——, made of paper coated with wax, was probably a plain sheet without any of the cell configurations, and he does not state whether the bees simply left it untouched or destroyed it. We do not know definitely of any experiments made with waxed paper configurated, but we have assurance that several experiments will be made under different circumstances early this season. It is thought that fine tissue paper may be used to advantage. We shall give the result of these experiments in due time.

Artificial combs have been in use in Germany and in Italy for many years. A patent was issued in the United States to the late Mr. Samuel Wagner, then the able editor of this JOURNAL. It was lately purchased by Mr. Perrine, of Chicago. See notice on last page of this issue.

John Long's Foundation was made by Mr. Weiss in New York, by a machine he had invented for that purpose two years ago, on which he is now getting a patent.

Novice (A. I. Root) has also invented a machine for making it, that really turns out a nicer article than that sold last season in New York. This machine has been purchased by Mr. C. O. Perrine, and will be used in the manufactory now being fitted up by him in this city.

Mr. Perrine has also permanently engaged Mr. Weiss to superintend his works—and soon they will be ready to fill all orders promptly. Orders may be sent to this office for it in any quantity.

☞ If you know of any bee-keepers who ought to take the AMERICAN BEE JOURNAL, but do not, and will send us their names and Post Office addresses, we will send each a sample copy.

The Centennial Display.

The Centennial Commission have erected a special building for bees, and steps should be taken at once to make a fine display there.

It is arranged to have special shows of honey on June 20 to 24, and Oct. 23 to Nov. 1, and every thing of interest in the way of hives, bees, or apiarian appliances should be there on exhibition.

We invite special attention to the following letter, just received from the chief of the Agricultural Bureau:

U. S. CENTENNIAL COMMISSION,
PHILADELPHIA, March, 17th, 1876.

MR. THOMAS G. NEWMAN, publisher AMERICAN BEE JOURNAL, Chicago, Ill.—*Dear Sir:*—The advanced character of apiarian apparatus produced in this country will not be as thoroughly shown at the International Exhibition as is desirable, unless manufacturers immediately apply for space, which will be granted without entry fee or rent for room, if application be made at once. Objects for exhibition must be in place by 25th April. Yours respectfully, BURNET LANDRETH,
Chief of Bureau.

The Centennial Committee of the N. E. Bee-keepers' Association made report in our last issue. The following is a further report from the committee:

REPORT OF THE CENTENNIAL COMMITTEE OF THE NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

The North-Eastern Bee-keepers' Association appreciate the propriety of making the display of honey at the coming International Centennial as grand as practicable—commensurate, if possible, with the display in other branches of agriculture.

To this end a committee was appointed to investigate the conditions and requirements necessary for the exhibitor, and then appropriate as much of the funds from the treasury, for laudable objects, as they should deem prudent.

The first part of their duty was performed, and reported in the Bee Journal for March.

After proper deliberation, they decide to offer the two following prizes, both of which are to be competed for at the SPECIAL SHOW of honey and wax, to be held Oct. 23, to Nov. 1, 1876.

They offer $35 for the best and most meritorious display of comb and extracted Honey and Wax,—conditions as follows: The honey and wax must be of fine quality, and put up in elegant packages, such as are most likely to find ready sale at high prices. *Other things being equal,* the larger the display, the greater the merit. The judges will consist of practical bee-keepers and dealers in honey.

They offer $25 for the best and most practical essay on "How to keep Bees successfully during winter and spring."

Such essays should not treat upon the physiology of the bee, except so far as is necessary to explain instincts and management. This is suggested with a view to making them brief. With bee-keepers, the ultimate idea of SUCCESS is, the attainment of pecuniary reward, and in deciding upon the merits of the essays, the judges will keep this idea prominent. If none of the "Centennial Committee" compete for this prize, they will act as the judges.

In any case, unbiased, practical bee-keepers will act as judges on the essays. These prizes are open for competition to the world.

Before closing this report, the committee suggest that the time for holding the "National Bee-keepers' Association" *be changed* from the first Wednesday of September to the 25th of October, 1876. This change will bring it into close connection with the fall special show of honey and wax, the time for which was fixed by the Centennial Commission.

By October 25th the summer work of the apiary will be done, and the honey, to some extent, disposed of.

If the National Society meets at that date, all bee-keepers can get home in time to prepare and put their bees into winter quarters. We hope these points will receive due consideration from the mass of Northern bee-keepers.

We will write to the officers of the National Socieiy, and hope arrangements can be made to have the October Special Show of Honey and the meeting of the National Society come at the same time.

Suggestions and opinions will be gratefully received.

J. H. NELLIS, Secretary.
J. E. HETHERINGTON, Chairman.

We think, on the whole, that the time named will be the best for all concerned—and trust that arrangements will be made accordingly, so that those going then can witness the honey show, as well as attend the Convention.

☞ A correspondent asks us: "What is the object of the comb foundation? Is it to make the bees build straight?" We answer that it is *not* entirely that, though it is a great help to those who cannot spare combs for guides—but it saves the bees' time, and, time is honey, and honey is money to the apiarist. The foundation saves fully one-half the time in building comb.

☞ "Let justice be done though the Heavens fall," is a legend appropriate to nail to the banner of THE AMERICAN BEE JOURNAL. "Exact justice well meted out" is just what it purposes to give to all—without fear or favor!

In the remarks of Captain J. E. HETHERINGTON, before the N. E. Bee-keepers' Convention, as reported in this issue, on page 98, at the bottom of the first column, he says that in "a good season and large yield, the journals are eager for a report, but in a poor one, like the last, *no report is asked for.*" How it could be possible to make this mis-statement, we cannot imagine. There is but *one* Bee Journal on the American continent—and that, THE AMERICAN. In the September number of 1875, page 193, we called for *universal* reports. In the October and November numbers are published hundreds of these reports, reporting good, bad, and indifferent experiences. Never were reports so faithfully called for, and never was a call more fully responded to, than last fall! Surely, the reporter must have garbled the expressions of Captain Hetherington—he could not have made such a statement.

On page 104 of this issue, Mr. T. F. Bingham states that "honey-comb is one thing, beeswax another, and very different thing;" and that butter after being melted "is butter no more—it is *grease.*" Although we are not an expert in beeswax, we have always understood that the bees formed the honey-comb, using little particles secreted by themselves known as beeswax, and that the changing of its shape again from honey-comb to the solid cake known in commerce, would *not* change the original character of the article. Again, a comparison between beeswax and butter is hardly fair, for butter, as it comes from the churn, will degenerate if kept too long, but beeswax will not, under ordinary circumstances, for ages.

In the next paragraph, Mr. B. attempts to quote from an old advertisement of one of our honey dealers—but he evidently quotes from treacherous memory—and credits to the wrong party. We thought we remembered the expression and looked up the old circular and find it was issued by the Honey Co., Wm. M. Hoge or Mrs. Spaids, and not C. O. Perrine, as stated.

This number also contains an article from Mr. Coe on the House Apiary; and in the present situation of the matter we must ask him not to think uncharitably of us, if we decline a continuation of the controversy, unless it shall contain information valuable to bee-keepers in general, and not merely personal differences between himself and Novice.

This gives us occasion to say a word in general. We believe in the largest liberty in all matters that shall further the interests of the bee-keeper. So long as views differ in regard to points of interest in our specialty, we invite the fullest and freest discussion, and always hold our columns open to publish opinions the most diametrically opposed, only so that thereby new light may be gained and the truth arrived at. There are many points upon which the apiarist is deeply interested to have new light thrown. Notably, the matter of wintering and springing, and with regard to this there are almost as many views as there are writers. Probably, however, those who have done the most thinking and experimenting, if asked to-day how to winter and spring bees without loss, would shake their heads and say the problem was yet unsolved. In this state of the case, there must surely good result from the freest interchange of views, but with this freedom of utterance comes the danger that personalities may arise and a half a column be filled with matter of no benefit to the reader and of doubtful gratification to the writer. These things arise not merely because of difference of views, but because of some little bitterness of expression in the first place, some single word, perhaps, that adds nothing to the value of the article, and might better be left unspoken, but which calls out several lines in reply, to be followed in turn by a longer reply, until the readers of THE AMERICAN BEE JOURNAL heartily wish the disputants might be allowed to carry on their wrangle by private correspondence. If A is firm in the belief that upward ventilation, and plenty of it, is essential, and so expresses himself, B, who holds opposite views, will not strengthen his position so well by saying A or any other man is a fool to believe in

upward ventilation, as by bringing facts to bear, and showing large numbers of colonies safely wintered with no upward ventilation whatever.

Now, we cordially invite every bee-keeper who has a single fact that may be of use to our readers, to make free use of of our columns. THE AMERICAN BEE JOURNAL has no interest whatever, in any hive or hobby, only to do the most good in giving such reading as shall be valuable to those who have the care of "the busy bee." So send on your communications, one and all, whether you agree or differ with others, only, good friends, don't be ill natured, and before sending in your articles, *please pull out the stings.*

☞ Within the past few days we have received letters from Bee-Keepers in Denmark, France, Belgium, Austria, New South Wales, Australia and England. It is very gratifying to us to know that the old AMERICAN BEE JOURNAL is read and prized in almost "every clime under heaven."

☞ With the next number we shall commence a series of articles on experiments, and shall illustrate them with cuts, so that all can comprehend them at a glance.

Mr. T. F. BINGHAM, now in Nashville, Tenn., wintering his bees, writes us, that he will take them back to Michigan early in April. He says, "they have wintered fairly and seem to be doing well."

Mr. M. M. BALDRIDGE, of St. Charles, in this State, has gone South to take charge of the Rev. W. K. Marshall's apiary, during the coming season. Mr. M. writes us that his bees are doing well—gathering some honey.

When your time runs out, if you do not wish to have THE AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

Many are the inquiries as to the present status and whereabouts of Mrs. Tupper. The following is a sample of some; while others contain a recital of the frauds practiced upon the writers by her, and not a few refuse to pay for the JOURNAL, because she has defrauded them—forgetting that *two* wrongs will not make *one* right. We had nothing more to do with her business transactions than "the man in the moon," and to ask us to pay her bills, is unreasonable in the extreme. But here is the letter we started to give:

"I had cultivated high esteem for Mrs. Tupper, and to have such an one come to such a fate, from whatever influence, produces sadness and pity. I don't learn from the papers the result. What has been done with her case? Success to the JOURNAL." E. H.

To answer this we will say that Mrs. Tupper has been taken to the Iowa Insane Asylum. Evidence accumulates every day, to prove that she has been recklessly carrying on this "crookedness" for years, and that it was as systematic as it was relentless.

In a private letter "Novice" says: "Mrs. Tupper obtained as many subscriptions for our Journal, (*Gleanings*) as she could get, but never sent the money."

From Mr. Slocum, of the *Bee-keeper's Magazine*, we learn with regret that Mr. A. J. King, his partner, has caught a heavy cold, which has settled in his eyes; disabling him, for the present, for editorial duties. We hope it may not be of long continuance.

Michigan Bee-Keepers' Association.

The Third Semi-annual Session of the Michigan Bee-Keepers' Association will be held at Corporation Hall, Kalamazoo, Michigan, on Wednesday, May 3d, 1876. The first session will convene promptly at 1 o'clock P. M. We extend a cordial invitation to all bee-keepers to be present. Our Spring sessions have hitherto been decidedly successful, and we have every reason to believe that the coming one will fully equal its predecessors in point of interest and importance. The subjects for discussion will cover the broad field of modern Apiculture. Come prepared to give us your best and most valuable ideas of the points involved, and thereby aid in making the meeting of mutual interest and profit.

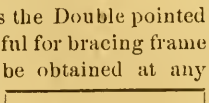
HERBERT A. BURCH,
South Haven, Michigan. Secretary.

OUR HOME.—On the cover of this issue is a view of the building on the corner of Clark and Monroe Streets, which contains THE AMERICAN BEE JOURNAL office. An idea of the location and building will be obtained by those who cannot give us a call, and to those coming to Chicago it will serve as a guide to direct their steps to a familiar place—our office. We expect to keep on hand, for exhibition to our friends who call on us, all the new, as well as the older appliances for apicultural labor. We are gathering some in now, and in the course of a few weeks shall have quite a display. To all, therefore, when coming to this city, we extend a cordial invitation—"Come and see us."

"EUREKA."—That means "I have found it." Well, what is it? J. L. SMITH, Tecumseh, Mich., tells us he has found THE Bee Hive! We asked him to send a sample one to this office with description. Here is the description—our readers must call and see the hive, if they are not satisfied with the following:

"It is simply a hive in a nice little Bee House, with surrounding air spaces, (patented) with a queen nursery, so arranged that four nuclei can be wintered with their queens, immediately over the full colony. The main colony can be removed at will, without disturbing the nuclei, or *visa versa*. But for honey-gathering use two boxes, holding about 16 pounds each; those boxes are constructed of ten small frames each, making a very convenient sized box for shipping, and just the thing for the retail trade; each frame holding, on an average, about 1½ pounds. I build all my hives with the honey boxes unles otherwise ordered."

E. S. STOW, Fort Dickinson, N. Y. writes us that he finds the Double pointed Shade Tacks very useful for bracing frame corners. They can be obtained at any hardware store. The following represents the exact size of them.



He has sent us a section of frame, showing its use, which is on exhibition in this office. He says that six cents worth will furnish enough for ten frames.

☞ In March No. you give the wrong size of the bottom bar of my frame—it should be 12½ inches in length.

S. K. MARSH.

SPLENDID.—E. C. Jordan, of the "Bee Cottage Apiary," Frederick Co., Va., has forwarded to us by express some of his superfine Comb Honey, as a sample. It was sent in one of his newly invented tin boxes, which we will describe more fully in a future number of THE BEE JOURNAL. For safe shipment it has great advantage over wooden boxes, and his honey looks so nice and tempting in it that Mr. Jordan finds ready sale for it at from 30 to 40 cents per pound.

☞MANY thanks to those who have remitted the amount of their arrearages during the past month—but there are hundreds yet to be heard from, and we would urge upon them the necessity of liquidating *at once*—as we greatly need the money to pay for our folly in placing too much confidence in "crooked" humanity.

A private letter from Rudolf Mayerhœffer, Esq., editor of *Der Bienenvater*, Prague, Austria, informs us that from May 13 to 17, there will be an International Agricultural Fair in Prague (Oesterreich) Newstadt, Breite, Gasse No. 747. He remarks that bee hives and honey will find ready sale there—but that honey in boxes is yet unknown to Austria.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send post paid a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

WM. S. BARCLAY, Beaver, Pa., has sent to this office, for exhibition, one of his machines for cutting winter passages in combs. It is doubtless a very handy contrivance.

HENRY DEAHLE, Winchester, Va., has mailed to us one of his 5 pound sample boxes. His claim is that they never break in shipping, and sell with the honey in gross. They are cut, ready to nail together, grooved for two glass sides. They are light and smoothly finished. See his advertisement in this issue.

☞ The following is a letter from Mrs. WAGNER, widow of the late SAMUEL WAGNER, and its contents speak for itself

YORK, PA., March 23, 1876.

DEAR AMERICAN BEE JOURNAL: I would like to state in reference to the patent taken out by my husband, the late Samuel Wagner, for the manufacture of artificial Honey Comb Foundation, that Mr. C. O. Perrine, of Chicago, wrote to me asking for an individual right to make and use the same, and I answered by saying that I did not wish to sell individual rights, but would make him a complete assignment of the whole patent for so much money, cash. Mr. Perrine came here and paid me the price asked without trying to get it for any less. Others have infringed the patent for some time but have never offered to buy it, probably knowing that my age and circumstances would not permit me to prosecute them. I write this to give a moral weight to a reason why all persons who wish to buy the comb foundation should get it of Mr. Perrine, as there may be those who will still infringe. Yours Respectfully,

ELIZABETH R. WAGNER.

☞ The Southern Kentucky Bee-keepers will meet in convention at Smith's Grove, Ky., on Thursday, June 1st, 1876. We especially invite all bee-keepers to attend or send us communications on any subject they choose. We expect an interesting and profitable meeting.

N. P. ALLEN.

A boy that can speak English and German, from 14 to 17 years of age, and not afraid of bees, can find a steady situation, by applying to DR. W. B. RUSH, Pointe Coupee, La.

☞ We have a new lot of fresh melilot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb extra, if sent by mail.

☞ Dr. N. P. Allen writes us that he expects a good honey harvest this year, and that his bees are doing finely. He adds: "White clover prospects were never better. I have lost but one stock this winter and that was caused by carelessness. I am proud of the AMERICAN BEE JOURNAL and read it with pleasure and profit.

☞ Those having any thing of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

Voices from Among the Hives.

CRAWFORD CO., PA.,—March 10, 1876.—"My bees have wintered splendidly thus far, in-doors." HENRY S. LEE.

LONG ISLAND, N. Y.—March 13, 1876.—"Bees have wintered remarkably well—almost without loss. They have had a fly every two or three weeks, all winter long, and to this I attribute their fine condition." D. R. PORTER.

SPRINGFIELD, O.—March 11, 1876.—"I cannot get along without the JOURNAL. It grows better and better with each issue." A. B. MASON.

HARTFORD, KANSAS.—March 15, 1876.—"My bees did well last year after the grasshoppers left in June. I have 46 colonies. They carried in natural pollen on the 9th of Feb., and every warm day since, from soft maple." WM. K. NORBURY.

POINTE COUPEE, LA.—March 3, 1876.—"The fall of 1875 was too wet for honey here and it was a failure. A great many bees have starved. Some are troubled over the dark prospects of the honey market, but all the fears I have are that my bees will not give me as much honey as I can sell. I can now raise honey equal to California in color, and of a much finer flavor, and so far could not fill all my orders. I am fully in for the Centennial Convention to be held the same time as the honey show. We cannot send fancy articles of honey so far by express, we must take them with us. I can't leave my bees in June, but can in Sept., which is the most pleasant time of the year. I shall go then and take a full line of samples of honey." W. B. RUSH.

HENDERSON, TENN.—March 15, 1876.—"I have lost two stocks this winter that were queenless. The other 16 were as vigorous as in May, previous to this week; now the snow has been 9 inches deep for a week. My bees have bred all winter. There were but a few days that they could not fly. I had last season, from 14 stocks (4 or 5 weak stocks gave no yield) 225 lbs. extracted honey. 160 lbs. of that was buckwheat. I extracted them clean in August and found in January plenty of honey and bees. Mine are mostly Italians." T. A. SMITH.

SIGEL, ILL.—March 9, 1876.—"Of 69 hives I have found up to date 2 dead. Both were evidently queenless; swarms of Sept. 65, I winter out doors, in hives which allow five inch straw packing all around, so they never become too cold. My hives have an improvement which I believe is new. The front of my hives is protected by a 4 inch straw bag which rests on a tunnel 4 inches long which fits

the fly-hole, so that the bees any warm day of 45° can have a fly. By this way their fly-hole is 6 inches long. No sun ray can strike the inside, No cold storm can immediately press out the warm air, and the bees are less disturbed than those having a short fly-hole." CH. SONNE.

JEFFERSON, WIS., Feb. 28th, 1876.

"I have had lots of trouble with Mrs. S. E. Spaides and her husband, C. D. Spaids, and that they owe me over $1500 yet on two notes which, with another one they had given me after a settlement I had with them at their store at 50 Grand street, New York, in December, 1874. I was forced to sue them for the payment of those notes; they brought every obstacle in my way, but I finally beat them, getting judgment against each of them, but during the progress of the lawsuit they had sold out, leaving New York,—Mrs. Spaids going to West Virginia, and he to Maryland. At present my attorney has obtained an order from the court to imprison their lawyer, who is in prison since the 21st of this month, because he would not take an oath and then answer questions concerning the whereabouts of the property of the Spaids. I considered Mrs. Spaids honest, at one time sold her over $4000 worth of honey without any security, and she paid me, but since she got connected with Spaids, she cannot do as she wants to, and perhaps changed her idea about paying debts. ADAM GRIMM.

BETHANY, O.—March 3, 1876.—"This has been a very mild winter, consequently there has been but few bees lost with the cold, some have already died and others soon will die if they are not fed, as but little honey was gathered last year, and that from fall flowers, and I find on examination that a great deal of it is granulating in the cell.

I saw swamp maples in bloom January 22. On Feb. 13 my bees were carrying in natural pollen; but since then the weather has been too cold for them to fly much.

Our main honey plant is white clover. Last year, I did not get an ounce of surplus, and besides, had to feed about fifty lbs sugar, and will have to feed that much more this spring." W. S. BOYD.

JEFFERSON, WIS.—March 20, 1876.—"My bees wintered so far good, they were set out on the 10th and had a good flight; but now, we have one snow storm after the other, and all hope of an early spring is gone. I winter my bees in a House *a la* Novice, 15 inch wall, filled with sawdust, the same kept free of frost the coldest of last winter and the temperature was moderate this slight winter, about 40 degrees on an average. My bees came out in good order, lost only one out of 60 hives.

In the March number, '75, I read: "Is it a fact, that first swarms issue in the forenoon." My after swarms issued most any time of the day, but especially early in the morning, some before 7 o'clock, and I have had first swarms frequently in the afternoon, some as late as 6 o'clock in the evening." W. WOLFF.

SCIOTA CO., O.—Feb. 26, 1876.—"My bees are all (20) on summer stand and doing well—never better; rearing brood all winter; more bees now than I began the winter with. I am trying to learn my bees to stay out all the time, for we must find some way to succeed on summer stands."
W. F. PATTERSON.

CADIZ, KY.—"I have 9 stands of bees, 6 of them in Langstroth's hives. The first part of last year my bees did but little; late in the fall they did better. I took 300 lbs. of honey from 4 stands and got 2 swarms." J. LARKINS.

ABERFOYLE, ONT.—March 17, 1876.—"I am much pleased with THE JOURNAL. If I could not replace the numbers of this year I would not take $10 for them. I have kept bees for 7 years and have read Langstroth and Quinby. THE AMERICAN BEE JOURNAL should be in every bee-keeper's hands. One of my neighbors subscribed for another Bee paper, but no sooner does my JOURNAL come than he is over to read it. Bees have not done well here for two years. We have lots of linn, buckwheat, clover and raspberry. In the valley near me, there are many honey plants, and we have as good a country for bees, as anywhere in Canada."
R. C. CAMERON.

WILKESBARRE, PA., March 9, 1876:—"Seeing an advertisement of Mrs. Tupper's, that she had for sale, $5 queens, 'safe arrival guaranteed,' I sent for one, forwarding the money Aug. 1st, 1874. It did not come till so late in the fall, that I ordered it not to be sent,—and the money returned. In answer to this, came a *dead queen*. In the spring of 1875, she agreed to send me another, but it never came. I am not surprised at her downfall, as she proved dishonest to me some time ago.
GEO. D. SILVINS.

APPENOOSE CO., IOWA, March 9, 1876:—"Bees have wintered splendidly in this neighborhood. I have not lost a single colony this winter. My bees are all bright and healthy; this time last year I had lost nearly all. I had only two colonies left, to begin with, last spring. I increased them to twelve colonies; got over 100 lbs. of box honey; raised forty-five queens; and had all my bees in good fix for winter, without feeding. My bees are all Italians; I breed from imported mothers; think they are much the best. I get my imported queens from Ch. Dadant & Son." M. M. CALLEN.

For the American Bee Journal.

"Scientific" Talks to the Washington Co., N. Y., Agricultural Society.

MR. PRESIDENT:—A few years ago the New York State Agricultural Society extended to apiarians the privilege of discussing their avocation at one of their evening sessions. This recognition of their position as one of the great industries of the State, was a subject of congratulation among bee culturists, and was of much benefit for the future development of the business.

In like manner the bee keepers of this county are encouraged by the invitation extended to them for the first time to appear before this society, and I come before you as a representative of this class to present a few facts and ask a few favors.

We are well aware that the thrifty farmers of this county who own their broad acres and improved stock, and who come before this society annually with their varied and substantial productions, usually look upon the art of bee cultivation as of trifling import; but if we compare our stock with theirs we find we can trace the pedigree of our industrious insects to the remotest periods of antiquity, and while your grades of domestic stock are made profitable in proportion to their dependence upon the hand of man for their daily food, our insects are endowed with almost human wisdom to lay up stores of food for their own sustenance, and a generous surplus for the use of the fortunate owner.

From the time when Sampson found the body of the lion he had previously slain converted into a bee-hive, there have been practiced various methods of obtaining the fruits of their labors; but not until our own progressive century came to add its enlightenment, has bee culture become a science equal in importance to other industries of the age. And now, owing to the application of the movable comb principle, the honey extractor, artificial honey comb, and the introduction of improved stock from foreign countries, this branch of rural industry is enlisting the attention of thinking people in all portions of our country, and in our own county the business is being rapidly developed by the application of these new discoveries.

When we examine into the statistics of the production of honey, it is no wonder that intelligent people should favor this pursuit. We are surprised at the amount that could be obtained had we the industrious workers at hand in the proper season to obtain it.

From careful observation and from the experience of others it is safe to say that an average of five hundred pounds of honey could be obtained from every square mile in this county, but if these figures seem too high, let us deduct one half for poor seasons, and then the 850 square miles of our county would produce over 200,000 pounds. To those unacquainted with our honey resources, these statements may seem to be overdrawn, but we have at hand figures from various localities in our State and in other States, where the annual production has been over one thousand pounds per square mile, while California, noted for its wonderful productions, has localities where there seems to be no end to the flow of this abundant sweet.

Here, then, we have in our nation billions of pounds of this healthy substance actually going to waste for the want of these willing laborers to gather it.

We send our hard-earned dollars to other States and countries for our sweets, while our broad fields of clover, our forests of linden, and countless varieties of beautiful flowers by the wayside, are every day in their season making the air fragrant by the evaporation of this useful substance.

In view of these facts is it not, then, of great importance that we should extend the necessary information to parties of either sex who may be endowed with the peculiar talent for this branch of rural economy? With a wider dissemination of these truths and their intelligent application, competition would arise, with competition lower prices, and with lower prices greater consumption, and the article that is now considered a luxury would come into every-day use upon our tables and in our cookery.

We do not propose, Mr. President, in these remarks, to occupy your valuable time by details of management, or of methods to overcome the disastrous effects of our winters, but will state that in comparison to dairying or other farm operations where large capital is invested and labor expended, bee-culture shows profits far in advance of any other rural pursuit; but to be successful requires close attention and untiring watchfulness, and persons that suppose a fortune is in store for them by merely purchasing a swarm of bees and having no love for the occupation, had much better stick to their productions, from a patch of potatoes at twenty cents per bushel.

This society which has already done so much for the development of our agricultural resources, could do much to further encourage the science of bee-culture.

Our interests would be greatly promoted by offering us more liberal premiums.

Encourage us to display all of our appliances and give us additional premiums to get the greatest yield from a single colony, and instead of crowding us into narrow and obscure quarters, give us

room to display to advantage our various operations, and we assure you that the bee-keepers of this county will add a novel and interesting feature to your annual exhibition.

We have here presented to you but a few points of our business, and trust our honeyed remarks will not fail to be fruitful of good results.

For the American Bee Journal.

What about that Honey?

The following, although more *amusing* than *instructive*, will, perhaps, do for one of the winter numbers of the JOURNAL. Its truthfulness makes it all the more amusing.

Dr. K. and Mr. A., who are transacting some business, are interrupted for a moment by a stranger, Mr. B., who is admitted to the office. Mr. A.—Well, now, let's see about that honey: How much did that amount to?

Dr. K.—Let me see: I will have to look that up. How many jars did you have the last time?

Mr. A.—Ten, I believe.

Dr. K.—I had an idea it was a dozen. Ah! here it is. You are right. Ten jars, at 75 cents, including the jars, would be $7.50, which, with $5.40 for the first lot, makes $12.90.

Mr. A.—Have you any more of that granulated honey. I would like two jars of it for a preacher I have with me in the wagon.

Dr. K.—(Leaving the room with Mr. A.) Really, I have but one jar left, having restored it all to its former condition by heating it to about the temperature of from 150 degrees to 168 degrees. It sells better in that condition at the stores, they tell me. I warmed some up to that temperature last spring, and sealed it hermetically, and I have some of it now,—not a jar showing any signs of granulating. When thus treated the flavor is not injured, as I can see; but is just about spoiled if brought to the boiling point.

Mr. A.—Well, give me the jar that is granulated, and two others. Now let me see how we stand. $4.85: that leaves that you owe me. Haven't you some money so that you can settle it now?

Dr. K.—Really, Mr. A., I am just about entirely out: it would take all I have got, if I did, and I don't think I could settle it to-day, possibly.

Mr. A.—Well. good morning.

Dr. K. (entering the office.)—Well, Sir, we have been having some pretty cold weather.

Mr. B.—Yes Sir: but they are having it colder than this where I came from.

Dr. K.—Ah, where is that?

Mr. B.—Montreal, Sir. I have just settled at Forked River, to engage in the manufacture of a medicine called the Russian Asthma Cure; but I can't commence business without some 'oney. I just heard you tell that gentleman that you were all out, so I suppose it will be of no use to talk about that.

Dr. K.—Well, no sir. I am not troubled with much of that article. I find it is about as much as I can do to get along and provide for my family. But about this Asthma Cure. Have you tried it in enough cases so that you are satisfied that it will really cure asthma?

Mr. B.—Yes, sir. It will knock asthma and dyspepsia higher than a kite. I have tried it in a hundred cases without a single failure. I cured my own wife with it, though she had it so bad that I have been obliged to carry her to an open window many a time in the coldest nights of a Canadian winter, that she might get her breath. But to make it I must have some 'oney. I don't care how *old* or how *black* it is, provided it is perfectly pure.

Dr. K.—(Thinking, perhaps, he didn't understand him) What did you say?

Mr. B.—I say I don't care how old or how black it is, provided it is perfectly pure.

Dr. K.—(Musing, That is queer talk. I suppose the gentleman must have heard of our *Rag Baby*, and hasn't a very favorable idea of it having come from a land of hard money. He speaks of it as black. Let's see. Slavery was the cause of the war, the war was the cause of the *rag baby*, therefore the *rag baby*, must have been of *negro* origin, and therefore black. Perhaps that is his line of argument.) How much do you want?

Mr. B.—A hundred pounds, at least, to begin with.

Dr. K.—(Musing. Let me see. That would be about $500. I guess he tells the truth about coming from Canada, for he talks about pounds and shillings yet.) You say you have some acquaintances at Forked River. Perhaps you might get some money there.

Mr. B.—But there isn't any there.

Dr. K.—Oh, my dear sir, you are mistaken. There is Mr. Falkinburg, Mr. Parker, Mr. Holmes,—there is plenty of money at Forked River.

Mr. B.—Ah, but you didn't understand me. It is *honey* I want. I happen to have money, and will pay cash for your honey, if you have any. Ha, ha, ha.

Dr. K.—Ha, ha, ha; ha, ha, ha. Why, my dear sir, I thought you was talking about money all the time. It was money I told Mr. A. I was out of. Ha, ha, ha.

Mr. B.—So then you have honey, have you? As I said before, I don't care how old or how black it is, if it is only pure.

For the information of bee keepers, I will say, I soon disposed of what little extracted honey I had at 20 cents.

Ocean Co., N. J. E. KIMPTON.

For the American Bee Journal.

Santa Barbara.

This country is located on the sea coast in the southern part of the state near a group of islands of the same name, and has become noted for its equable climate, attracting thousands from their frozen homes to spend the winter where December is as pleasant as May. Since Dr. Logan, President of the U. S. Medical Association, recommended Santa Barbara as the best sanitarium on the continent, our hotels and private houses have usually been crowded to their utmost capacity by the throng of invalids who were seeking an extension of their lease of life.

Climate.—Our summers are mild and pleasant, the mercury ranging from seventy to eighty, and seldom reaching ninety. The evenings are pleasant, and the nights always cool. Our winter months are warm and genial, like May and June of the East; frost is seldom seen, and every breeze is freighted wfth fragrance from our flower gardens.

Soil.—In this portion of the State the soil varies from black clay, called adobe, to a light sandy loam, formed from decomposed Tertiary rocks, of which our mountains are composed, and is remarkably productive, yielding sometimes wonderful crops of corn, barley, wheat, and alfalfa.

Water.—The water is generally pure, not so cool as in higher latitudes, and easily obtained from wells, springs, or mountain streams. In flat land on the coast near the level of the sea, it is sometimes brackish, but in all such cases pure artesian water is usually found at reasonable depths.

Irrigation.—In this and the adjoining valleys we have learned that deep and thorough cultivation, so as to save and economize the usual fourteen inches of rain fall, is better than flooding the surface. Eventually, underground irrigation through wooden pipes for horticultural purposes, will be popular.

Fuel.—There is a plenty of wood for present purposes, but if our population continues to increase at its present rapid rate, within ten years there will be very little natural timber, and people will have to use the prunings from their vines, fruit and ornamental trees, or burn petroleum which flows from springs so abundantly that hundreds of barrels are running daily to waste.

Hot Springs.—There are a number of hot springs in the mountain canons that have become quite noted for their healing qualities, and are usually thronged to the full capacity of their hotels. Senator Morton, and thousands of others, have bathed there, and recommended their mineral waters.

Titles.—Land titles are generally settled and founded on U. S. patents which have been issued to confirm old Mexican and Spanish grants.

Society ought to be good, for the lamented Rev. Dr. Thomas stated that it was composed of the cream of other communities.

Churches.—The Congregational, Presbyterian, Methodist, Baptist and Episcopal denominations each have an elegant church edifice, and an able divine to occupy the pulpit.

Schools.—Santa Barbara boasts of a fine young American college, with buildings that cost sixty thousand dollars; a Spanish Catholic San Franciscan college, in a flourishing condition; a St. Vincent school for young ladies, an excellent system of public schools, and an able corps of experienced teachers.

Homesteads.—In this vicinity, and about all other promising towns in this part of the State, small farms are held at from one to three hundred dollars per acre, according to quality, location, size and improvements.

Cheap Homes.—Recently several colonies have been formed, and one is now forming, for the purpose of purchasing new land in beautiful little valleys near the coast, where unoccupied ranches, as good as any that have yet been settled, can be purchased at from five to ten dollars per acre, on long time and at a low rate of interest, with a view of subdividing and settling the same, as Vineland has done, making their own towns, schools and churches, so that one thousand dollars will go as far as two or three usually do in securing a new home.

Productions.—This and the adjoining valleys are well adapted to the production of apples, pears, peaches, plums, nectarines, apricots, pomegranates, almonds, olives, English walnuts, oranges, lemons, limes, figs, grapes, wheat, barley, corn, Irish potatoes, sweet potatoes, and honey. Full grown almond trees should yield from seventy-five to one hundred pounds of nuts, worth from twenty to twenty-five cents a pound. One hundred trees are usually planted to the acre. At this rate one acre should yield from fifteen to twenty-five hundred dollars worth of fruit per annum, in a good season and when they are in full bearing. Oranges, lemons and limes do quite as well.

Fences.—The law restrains stock, and crops require no fencing.

Lumber.—Rough lumber in town usually sells at $27 per M., and other grades in proportion.

Wages.—Labor is well rewarded in all departments, especially house servants, who usually receive from twenty-five to thirty dollars a month, and cannot be retained long, even at that price, for the rich old bachelors are sure to promote

them to the position of housewives. Mechanics receive from three to five dollars a day, and farm hands from twenty-five to forty dollars a month.

TOOLS, wagons, etc., cost about twenty-five per cent. more here than in the East.

We have no chinch-bugs, few grasshoppers, no mad dogs, no fly-nets for horses, no mosquito-bars for our beds, no lightning-rods, no fever and ague, no poor-houses, no deaths from sun-stroke or tornadoes, no snow storms, little frost, no ice to cool our lemonade, no sleigh-bells, no sleds for the boys, no woolen mittens, and no skates.

We do have fresh vegetables, new potatoes, ripe strawberries, and ripe fruit fresh from the garden every month in the year, and always an abundance of spring chickens and beautiful flowers.

Those coming to this coast should bring only what they can pack solid, cannot dispose of for two-thirds of its value, and will need after they get here.

Persons desiring especial information should write their address distinctly, and enclose postage stamp.

O. L. ABBOTT.

Santa Barbara, Cal.

For the American Bee Journal.

Virgil and the Bees.

The bee, we find, figures largely in classic poetry. Virgil has devoted a whole book to the subject. He was born near Mantua, Italy, 70, B.C., and we may learn from his writings the degree of bee culture in that age. He says:

"The gifts of Heav'n my following song pursues
Aerial honey and ambrosial dews,"
"Their arms, their arts, their manners I disclose
And how they war, and whence the people rose."

Some, perhaps, may learn from the following:

"First for thy bees a quiet station find,
And lodge them under covert of the wind."

He thinks they should be far away from cows and goats, and the painted lizzard and birds of prey, the titmouse and Procne with her bosom stained in blood.

"These rob the trading citizens and bear
The trembling captive through the liquid air."
"But near a living stream their mansion place."

In line 27 he calls the queen the youthful prince, and advises that trees should be planted along the stream

"That when the youthful prince, with proud alarm,
Calls out the venturous colony to swarm."

In line 47, we learn how to construct the hive,

"Whether thou build the palace of thy bees
With twisted osiers, or with barks of trees,
Make but a narrow mouth, for as the cold
Congeals into a lump the liquid gold." * * *

He says, in line 60, bees are found

"In chambers of their own, beneath the ground;
That vaulted roofs are hung in pumices
And in the rotten trunks of hollow trees."

He describes their employment,

"They breed, they brood, instruct and educate,
And make provision for their future state."

What visions of our youth arise, as we read the following:

"But when thou seest a swarming cloud arise,
Then melfoil beat, and honeysuckles pound;
With these allluring savours strew the ground;
And mix with tinkling brass the cymbal's droning sound."

What is the use of movable comb frames, or non-swarming apparatus when one can bring out the old tin pans or employ a modern brass band?

He next describes a fight, when two pretenders strive for empires:

"They challenge and encounter, breast to breast,
* * * * * *
Till only one prevails—for only one can reign."

And though the air may be full of charging squadrons and combatants,

"Yet all these dreadful deeds, this deadly fray,
A cast of dust will soon allay,
And undecided leave the fortunes of to-day."

He thinks one of the monarchs should then be killed.

Does he mean Italian, when, in line 149, he says:

"The better brood, unlike the bastard crew,
Are marked with royal streaks of shining hue."

We had supposed that the idea of clipping the wing of the queen was of more recent date, but he says when the bees are disposed to leave their empty hives and stay,

"The task is easy—but to clip the wings
Of their high-flying, arbitrary kings;
At their command the people swarm away,
Confine the tyrant, and the slaves will stay."

He next speaks at length of a swain of his acquaintance who kept bees and prospered:

* * * "He supped at ease
And wisely deemed the wealth of monarchs less;
The little of his own, because his own did please,
* * * * * *
And pressed the combs with golden liquor crown'd."

Which one of our patent men stole Virgil's patent extractor?

In speaking of the nature of the bees, he says:

"The bees have common cities of their own
And common sons; beneath one law they live,
All is the State's; the State provides for all.
Some o'er the public magazines preside,
And some are sent new forage to provide.
* * * * * *
Some nurse the future matron of the State;
All with united force combine to drive
The lazy drones from the laborious hives;
Some employed at home, abide within the gate,
To fortify the combs, to build the wall,
To prop the ruins, lest the fabric falls,
But late at night, with weary pinions come
The lab'ring youth, and heavy laden, home."

Some time since a correspondent asked your JOURNAL, "Do bees sleep?" Virgil answers:

"Then having spent the last remains of light,
They give their bodies due repose at night;
When once in bed, their weary limbs they steep,
No buzzing sounds disturb their golden sleep—
'Tis sacred silence all."

Though he points out the monarch as

the one ruler, yet it seems that it was not known at this time that the ruler was a female, and that she laid all the eggs. Indeed, his ideas of their reproduction is exceedingly amusing,

"But (what's more strange) their modest appetites
Averse from Venus, fly the nuptial rites,
No lust enervates their heroic mind.
Nor waste their strength on wanton woman kind;
But in their months reside their genial powers;
They gather children from the leaves and flow'rs."

In describing their sting, he says:

"And through the purple veins a passage finds;
There fix their stings and leave their souls behind."

There is much more exceedingly interesting and amusing in his descriptions, but we close with a bit of advice that we all may take. Line 365,

"But since they share with man one common fate,
In health and in sickness, and in turns of state
Observe the symptoms."

What bee keeper who has listened for the sound of a hive which has run down and become weak, will not at once recognize the following:

"Soft whispers then, and broken sounds are heard,
As when the woods by gentle winds are stirred,
Such stifled noise as the closed furnace hides,
Or dying murmurs of departing tides."

He thinks honey, then, should be infused into the hives by hollow reeds, and gives a recipe for a sick colony, consisting of wine, raisins and a certain yellow flower.

If others find half as much amusement as I, they will be well repaid in reading the whole book, Dryden's Virgil Georgics iv.

S. S. WEATHERBY.

Baldwin City, Kan.

For the American Bee Journal.

How to obtain the largest yields of Honey.

In this short article, I will have to omit many items of considerable importance. In the first place, the bees must be well wintered, and have plenty of stores to last till honey comes again. Bees that are badly wintered, and sick, will not give satisfaction. Secondly, we must have good colonies to winter, and in the best condition possible. On this I might devote an entire chapter, but will have to omit it for the present, and pass to the most important subject, that of improving our bees. They are as susceptible of improvement as any other stock, and yet most sadly neglected. The chief object aimed at, has usually been to produce three-banded yellow bees, under the impression that nothing more was needed. Who has not noticed that one hive, or a few hives, would far outstrip—often double and even quadruple the rest? It is not uncommon to hear of single hives often producing three hundred, five hundred, and even seven hundred pounds in one season. Who would not give quite a round sum to have all of his colonies as good as the best? I have been able to get an average of nearly three-fourths as much clear through the apiary, as the best hive would produce, and without losing a single colony, either during winter or spring.

The most important part is queen rearing. Most apiarists know how to rear queens; but good ones are the object to be aimed at. To rear the best queens, plenty of honey and pollen, and enough bees of all ages, are necessary; but above all things, select your queen to breed from, and one which has given the best satisfaction the previous season. Always bear in mind that "like produces like," in bees as well as animals, there being but few exceptions; and by breeding carefully from the best stock, for a few generations, the careful breeder can produce exactly what he desires. It is of almost equal importance to use drones from none but the best colonies, allowing no drones to be reared, except in the choicest colonies. The apiarist should remember that infinitely more depends on a judicious selection of stock, and carefully excluding all others, than on any particular method of queen rearing. It is needless to say that if every colony has a queen as good as the best, and not too old, enough bees, and plenty of stores, and all other necessary conditions carefully attended to, the result cannot fail to be satisfactory.

E. C. L. LARCH, M. D.

Boone Co., Mo.

For the American Bee Journal.

Experience of "Six."

Apiculture is on the back-ground here; from the questions asked one would suppose they never saw bees. Mr. C. Parlange is still going ahead. July 30th he had 40 barrels of honey, which would average 43 gallons per barrel. I let my 101 alone (except the six swarms I have here) until June 27, when my machine arrived, (the Queen City Extractor, and there is no better or more convenient in use, and I do not except any), I was three days in getting started. I extracted 78 hives and obtained 318 gallons of fine honey. The rest of the hives were in bad condition, and the old box hives, too. I took a swarm from each one. As soon as I had once extracted, I went over them again, and up to July 20th, had taken 470 gallons.

My bees are all black and most miserably cross and mean, but I will try and have all Italianized in October. I am on a stand whether to buy dollar queens or rear them. I want 250, and it will require some help, and I cannot get it here, and owing to the state of society Northerners do not like to venture. I can raise queens

for $1.00 and $1.50, and warrant them, or $2.00 and test them; but I only say this to compare with the North, for there I would not rear queens and test them for less than $5.00, but I am not in the business this year. I am expecting an invoice of imported queens soon. I purchased 10 of one of the best breeders in Europe, and they will be from one of the best districts of Italy. I will not have any for sale. I am expecting two other varieties, and if they arrive safe, I will exhibit them at the next convention. I will say to my old friends, Mrs. Tupper and H. A. King, that I took their advice and did not come down here when I spoke of coming, but the attraction became too great, and in March I could no longer follow their advice. I am satisfied that I am in the best portion of the State. Society is not good, yet the morals are not bad, only in the way of stealing, and that is confined among the negroes, (they number 3 to 1 in this parish) who steal only something eatable, and that is their second nature, for they have been doing that for a hundred years, and they always will. There is no one molested or harmed here—only one murder in two years, yet in three parishes murders are more common than marriages, and it all comes from plots laid for political gains. Some one will incense a lot of men and get them into a riot; enough will be put in jail to insure the success of the carpet-bag, and when the election is over they are never tried.

If about forty of the carpet-baggers and their allies were hung, then Louisiana would be one among the most quiet States of the Union.

I greatly regret not having been here in February, but 6,000 lbs extracted honey in thirty days does finely. California may boast of her honey, oranges and lemons, but Louisiana will do her part towards keeping even in the first named.

I did not see the June and July numbers of the AMERICAN, but hope the contest in regard to imported queens is settled. I do *not* hold any ill-feeling toward Mr. Dadant, and I am, for one, willing to assist in sending for the chromos, and he can count me one, and send on as soon as the club is ready. The prevention of swarming is a question for us in the South. While at Mr. Parlange's he and I tried our hands at it, but did not fully succeed. I will add that keeping the queen cells cut out does not prevent it, for they will swarm without a sign of a cell. It's my opinion that the way is to combine all the modes of non-swarming; plenty of room, two stories, clip the wings, (I am strongly opposed to this, but it's better to injure them than lose them) keep them in the shade, cut out all cells —with all these precautions they will not often swarm, and when they do they will come back.

I am *thankful* for the mild climate here. The dreaded freezing of the bees is not feared here as in the North. I made many costly experiments in the North, and it now seems so long that I don't feel like speaking of it, but will write an article for the N. E. B. K. Society. I will say in time what will winter bees four times in five—to have good, light hives, covered over with some absorbent, and just before a thaw remove and dry the same; a good queen, young bees, protected from north and west winds, the usual entrance open, all capped honey, bees undisturbed — and they will go through safely. It will pay a good profit to ship bees down here, if they are near the river. They can be emptied first of October and shipped here, and returned in April, with young bees, plenty of brood and honey. I will take 150 colonies of pure Italians on the shares, to be delivered here, cut material ready for hives, and I will take half of the honey and half of the swarms for the care and labor.

There has not been anything for honey for ten days, but golden rod is now opening, and will continue for about two months, and there are thousands of acres of it. I will extract for two months yet, and then divide up. I hope to be able to make a permanent residence here, or near this place. Will give the honey resources next time. W. B. RUSH.

Pointe Coupee, La., Aug. 5, 1876.

For the American Bee Journal.

How to Place Hives.

MR. EDITOR:—I think you omitted one very important point in the directions to C. E. S., on page 26 of A. B. JOURNAL for 1876, and that is, the placing of the hives on the same stands they occupied before they were put in, which I think I will prove to your satisfaction. On the 23d of December last, a Mr. Sargent came to my house from Lebanon, about eight miles. I not being at home, he told my wife that he wanted me to come and examine his bees, and bring my extractor, as he thought several of them had too much honey; said he had had them in the cellar about two weeks, and they were getting very uneasy. The morning of December 31st being very fine, I started and arrived about nine o'clock. I found his bees in a sort of half cellar, the west side being only about two feet below ground, with two twelve light windows in front, admitting the full light of day. The entrances were all closed with blocks of wood. I told him the first thing to be done was to get them out, and asked him if he knew where each hive had stood, and he said he did not; so I set the first hive carried out on the first stand I came to, and opened it, and told him we would soon see where it belonged, and in five minutes there were

more than fifty bees flying around the third stand north from where the hive stood, and not a bee came back to the hive. Then I moved the hive to the bees, and they went in immediately. We carried out eight of the eleven hives to this stand, and let the bees pick their places, the ninth one proved to be the one that had stood there before. "Now," said he, "I think I know where the other two stood;" and we carried them out and opened them, and I went to examining the first hives brought out, and I thought nothing of the last two till near night, when I went to them and found the ground in front of each covered with dead bees. One was common black and the other Italian. The bees had really quit flying, though the thermometer stood at 74° Fahrenheit. Next morning I changed the hives, cleared away the dead bees and opened the hives, finding about a pint of dead Italians in the black hive, and nearly a quart of blacks in the Italian hive. The thermometer stood at 65 in the shade, and the bees flew lively from all the hives. I staid till noon, and there was no fighting at any of the hives.

In looking over the honey reports since August, I have been very much surprised to see so many, (even gentlemen with M. D. attached to their names) speak of smart-weed being among their best honey plants. I will not say that smart-weed yields no honey, though I have never seen a bee on it, and I suppose I had between 3,000 and 4,000 pounds gathered in about five weeks last August and September from the same plant they call smart-weed. There are two or three varieties of the plant that yields honey, resembling swart-weed in form of stem and leaf, but they grow much taller and have red flowers on an upright stem, and are mucilaginous, while the flower stem of smart-weed is drooping, like a weeping willow, and the blossom is white. A poultice made from the bruised herb burns worse than a mustard plaster, and is good for rheumatism and sprains. I do not know the botanical name of either of the plants. My bees carried in shipstuff every day last week; the last year's stocks carrying the principal part, and the latest carrying by far the most. Some of the old stocks did not carry any. Last winter I had 40 colonies, and one day in March they carried in 10 pounds of rye flour mixed with coarse wheat bran, to keep them from swamping in the flour. Two of them, which proved to be queenless, did not carry any at all during the spring. Is there any danger of their carrying in too much? Please answer in the next JOURNAL and oblige, Yours &c., C. T. SMITH,

Trenton, Clinton Co., Ills., Jan. 10, 1876.

[There is some difference of opinion about the importance of placing bees in spring upon the same stands they occupied the previous season; some insisting that the bees will go back to their old stands, the same as if they had only been in over night; and others, that it is of no consequence where they are placed, as they have forgotton all about the old location. Probably both are right. In the case given by Mr. Smith, the bees, having been confined only two weeks, would be sure to go back to their old stands; and much loss would occur from their being placed otherwise. In our own practice, we have not generally placed the hives upon the same stands which they occupied the previous season, and think we have met no serious loss in consequence; but are quite sure that in some cases the bees have at least taken a look at the old spot which was home the previous year. But our bees have usually been confined a long time in the cellar—four months or more. If they were carried out for a fly every warm spell, we should expect them to show a better memory of the old spot. Moreover, being confined for so long a period in the same cellar, they seem in some way to lose their distinguishing scent, so that immediately on first being taken out of the cellar two colonies may be united without any preparation whatever, and without any quarreling. So in such case, if a bee should go to the wrong hive, it would be kindly received. Our bees, at some time during the winter, generally undergo a temperature at, or near, the freezing point. May not the degree of cold they have suffered have something to do with the matter under discussion? It is at least, safe to put them on the old stands, *if* the precaution has been taken to note where the old stands are.

We think there is little danger that the bees of our correspondent will carry in too much meal. The fact that the oldest colonies carried in little or none, would seem to indicate that they were not in so much need of it as the younger colonies which had not had time to lay in a store; and, if so, then these younger colonies would not be likely to care so much for it after their wants were supplied. There are exceptional localities where the yield of pollen is so abundant as to be objectionable, and in such places it might not be advisable to feed meal without limit.]—ED.

For the American Bee Journal.

Honey in Small Boxes.

Several years since, when the excitement about the Extractor was at its height, and when bee-keepers supposed that it would be as easy to get 1000 lbs. of extracted honey from one hive of bees, as it would be to get 10 lbs. stored in small boxes, we did our best to convince the readers of the JOURNAL, that sooner or later they would discover their mistake and the Extractor would be thrown one side, and small boxes would be found the most profitable.

We were among the first to advocate the use of small boxes, and fifteen years ago we used and manufactured for sale, just such styled boxes as we have seen described in the JOURNAL the present winter. The three pound boxes with glass in the sides, we have made a specialty of, and we always found that this style was best suited to the markets as a general thing. Have had calls for tons of honey in such boxes at a high figure, when there was no sale at all for honey in 10 and 20 lb boxes. Your oldest readers will probably remember our articles under the above heading, and what we then said about the Extractors. We consider the Extractor a very convenient thing to have in the apiary, as even a bee-keeper on a small scale will find use for one occasionally. As for using the Extractor with the intention of getting large profits and finding quick sales for the honey, we always had an idea that the thing could not be done. We were of this opinion several years ago and we notice by the articles on this point from those who then opposed us, that we were about right. Now that the sale of extractors is falling off, they have reasons for changing their opinion concerning extracted and box-honey. We have been reading the remarks of Mr. James Heddon, before the Michigan Bee-Keepers' Association. Mr. Heddon has the right opinion of extracted as well as of box-honey, and we say amen to most of his remarks.

If we care to succeed as bee-keepers, we must use the Extractor less and small boxes more. Use boxes that are adapted to the wants of the purchaser. When a person purchases honey in the comb, he has no fear of being imposed upon, especially if it is stored in small boxes so that it can be seen. Honey stored in two and three lb boxes will always sell, and at prices, when the times are good, that ought to satisfy any bee-keeper.

As a general thing, a strong stock of bees will store fifty pounds of honey in small boxes. We have known cases, in a good season, where some stocks have stored over forty three lb boxes, and we can safely say that a good stock will average filling fourteen three lb boxes, year after year, even here in the poorest of all bee-countries. Of course a novice cannot succeed as well as an old bee-keeper, but he soon can learn how the thing is done. We always put a small piece of comb into each box, and by so doing the bees will commence work in them several days sooner than they will if put on empty.

In conclusion, we will say that we are glad to find that bee-keepers are being convinced that the use of the Extractor is a detriment to successful bee-culture, and that the use of small boxes will give better results, and lead to success, if we are to succeed at all. We have given the largest part of our time during the past eighteen years to bee-keeping, and we find that it pays, even to raise honey alone. We know that some bee keepers have an idea that not so much honey will be stored in small boxes as in large ones under the same conditions. We never found this to be the case, but have known bees to work in small boxes when they would not in large ones. For several years we have not written much for the AMERICAN BEE JOURNAL, but to use friend Newman's words, "when the spirit moves," we will try and fix up something

H. ALLEY.

Wenham, Mass., Feb. 22, 1876.

For the American Bee Journal.

N. E. Bee-Keepers' Convention.

ADDRESS OF CAPTAIN J. E. HETHERINGTON, PRESIDENT.

LADIES AND GENTLEMEN:—Our pets are asleep, and we are again in convention, to look after their welfare, advance the science, and add our mite to the general stock of knowledge, that the business may be as profitable as it is fascinating.

We come, each bringing for the benefit of others, the lessons and experiences of another season's work; and these I find, as varied as the hives we use, the systems of management we practice, or the variety of fields our bees gather from, a sort of reciprocity meeting, all making contributions to a general fund, then each for himself, selecting from the general harvest, such kernals as seem suited to his experiments or management; and the greater this practical experience, the fewer and better his selections, for one soon learns to demand with all nicely spun theories, the practical test of more than one season's experience.

When one year ago you elected me to this office, an office our constitution makes it obligatory upon the incumbent, at the expiration of his term, to deliver an address before the association, I accepted under protest, but to-day, I thank you for the honor, as an opportunity is given me

to offer my tribute of respect, to a noble man who spent the best years of his life in the advancement of the science in which we are all enthusiasts. I refer to Moses Quinby, of St. Johnsville, in this State, the organizer and first President of this association, who served in that capacity for five years, bringing to our meetings the greatest knowledge, the wisest counsels, the richest experiences, and who has now passed from us.

We can no longer enjoy his genial presence at our meetings. We shall never again listen to his words of timely counsel. His example remains to us, and may the great services he rendered the bee-keeping fraternity never be forgotten.

It was probably my privilege to know him as intimately, as any bee-keeper outside of his own family, and from him at the age of fifteen, I received my first enthusiasm on the subject, and to him in common with thousands of bee-keepers in the land, I am indebted, more than to any other, for practical instruction on the subject.

It is needless to mention the great amount of literary work performed by him, or remind you of the many valuable contributions to the subject, emanating from his pen, with these you are acquainted, to those who are not, I refer to his work, "Mysteries of Bee-keeping Explained," the files of the Bee Journals, the *American Agriculturist*, *Country Gentleman* and other agricultural papers, to which he regularly contributed for years, with occasionally an article to our best dailies. But this is only a portion of his work, the number of letters received and answered by him, would seem almost incredible to any of us. It was his practice to answer them all, if not too impertinent, often paying postage when the questions seemed important.

Of the great amount of gratuitous labor performed by him, to advance the science of bee-culture, the fraternity as a whole, will never know, nor can they realize, the information imparted to the numbers who flocked to see him personally, especially in the busy season.

Twice I was at his house in June, when I found there three from a distance to whom he was imparting instruction, in fact, his house was quite a hotel most of the time, with this difference, you could get no grog, neither could you pay a bill, except by imparting to, and helping others in the same generous spirit.

In thus imparting to others he found the highest enjoyment, without a thought that the time thus spent was putting his own business to a disadvantage.

He so fully realized the millions of pounds of delicious food annually going to waste, that a kind Creator had placed within our reach, simply for the taking, that he regarded any amount of labor on his part, to bring this knowledge to the world, no more than Christian duty.

It is to be regretted that he was not spared to complete the work on Advanced Bee Culture he had in contemplation. It is also to be hoped that some member of his family may give to the public, in some enduring form, a Biography, and some of his best articles on the subject.

It is often asked, "why did not Mr. Quinby accumulate a fortune keeping bees?" as he best answers the question, in an address to this association, I quote the paragraph—

"Two years ago, it was stated, in the North American convention of Bee-Keepers at Cleveland, Ohio, that Mr. Quinby had accumulated a fortune keeping bees, this was promptly denied, as far as dollars and cents were concerned.

"The term fortune is very indefinite as to the amount of money constituting one, one person would have it, with one hundredth part as much as another, and then again, a fortune may consist in the accumulation of knowledge, wherewith the dollars may be gained in the future. In yet another view, a fortune may be considered in the light of treasures laid up in heaven, in the satisfaction of having done something for the benefit of man, a perpetual reward, I hope I may have done, or shall do, something that way.

"The fact that a fortune was not secured pecuniarily, by me, is, I think, owing to distribution as fast as accumulated. Whenever a fact was obtained that would benefit others as well as myself, it was forthwith given to all who would receive it."

His life has been in every sense a life of usefulness, and not wholly devoted to the interests of bee-culture, for he took a living interest in any movement he thought would benefit society, and as an advocate, and helper in the temperance work, did no mean service.

He possessed true kindness of heart, and regarded it a religious duty to make all better and happier with whom he came in contact, and regarded that life a failure that did not leave the world the better for having lived. The following little incident tells its own story. On the day of the funeral some bare-footed boys had followed down the street to the front of the house, where one of them turned up a sorrowful looking face and remarked to the officiating clergyman: "I am sorry Mr. Quinby is dead." On being asked why, he replied: "He gave us apples and pears, and sometimes" grapes." They then asked if they might see him.

Generally, sickness as a warning for preparation, precedes dissolution, but in the case of our friend, at the small hours of night when reposing in quiet slumber the message came, as though fully prepared

to enter in and enjoy the "Kingdom prepared from the foundations of the world." His wife noticed an unusual breathing, on lighting the lamp she saw the end was near. She immediately called the family, and before they reached the bed he had answered the summons,—a noble spirit had fled back to its maker, a loving family circle broken, and the life work of the pioneer Bee-Keeper ended.

His kind and generous nature endeared him to all who knew him intimately, while his broad christian character and manly qualities, secured to him the respect and honor of the whole community.

Apiculture, as a science, is yet in its infancy; as one of the industries of the nation, it is only in the first stages of development.

The great mortality among bees the past four years has delayed progress.

Persons have been induced to invest in the business, without any preparation or knowledge of it whatever, under the delusion that it is a safe, sure business, with a large margin, in which one, two, three, and even four hundred per cent. may be realized on the investment, with only a moderate outlay of labor. While the experience of the past few years clearly proves that where one succeeds, a much greater number lose their investment and quit the business, disgusted bee-keepers—and this has not been without its effect.

The subject has not been fairly presented; there has been too much of the profit side of the picture served up for consideration, with only just sufficient of the other side to spice it, hence a wrong impression. And on this score, I think, our bee journals open to criticism. But perhaps it is not so much the fault of editors as bee-keepers themselves, or, rather, that class who furnish articles and reports for them.

I think any person with little knowledge of the business who would read, for one year, all that is published on the subject, and would then enter the business, would do so under a delusion.

It is, however, to the credit of some of our journals that they have space open for reports of "Blasted Hopes." But the fact is, few such reports are received.

As a rule, if we meet with failure, we pocket the loss as though too modest to tell of it. I say it is not in the nature of man to advertise to the world his failures, hence a wrong impression.

One thing I have observed, that when I have a good season, and large yield, the journals are eager for a report, but in a poor one, like the last, no report is asked for, not one special application having been made.

Our large yield of eighteen hundred and seventy-four has been thoroughly canvassed.

A correspondent in the *Country Gentleman*, in an article on the subject, makes out a clear case, viz.: "There is no legitimate business one can engage in and realize such great profit from as in this business," and cites to prove his case one of the largest amounts on record, from a single swarm, as the product of one season's work.

But the *Gentleman* does not inform the public that fifty other stocks, under the same skillful management, and with the extractor, averaged less than *one-fourth* that amount per colony, a fact for which I can vouch.

He also cites our large yield of eighteen hundred and seventy-four, and prophesied that in the season just passed, we will greatly exceed that amount. While the fact is, the average production per colony, instead of the great excess prophecied, is less than one-third the amount gathered during the season mentioned, with better facilities for management. Will the *Gentleman* correct the wrong impression by giving the facts in the case? I trow not.

It was the custom of my grandfather, when I was a youngster, to purchase every fall a generous supply of comb honey. It was no sooner delivered than a drove of boys made raid on the kitchen pantry with spoons, as a convenience for filling their capacious jackets. On one such occasion, grandfather said, he thought some of us boys could raise honey, and added, that he would pay us twice as much for it as he did Mr. Baxter. Upon this suggestion, I followed the gentleman out, and made inquiry about the business. I was informed, there was no business in the world as profitable as keeping bees, that each hive was sure to swarm three times, and often four or five, and the swarms were worth five dollars each; furthermore, there was only the trifling expense of a few boards to "make hives of;" that bees worked for nothing and boarded themselves.

Soon after this with five dollars earned for the purpose, I purchased a colony, and entered the business under a delusion. Some one says, "That's nothing; people often live a whole life deluded."

Now I conceive this may be a fine thing, if never waked from it, but I defy any one to be long in this business without knowing the facts of the case. What I ask is that the subject be fairly presented. If this were done, I think more would be successful in the business, and the production increased in consequence. I wish to be understood that bee-keeping is a science, and as such, requires study and practical knowledge, as much as any other, to be successful in it.

The idea that bees work for nothing and board themselves, consequently all you have to do is to "hold the dish and catch the porridge," is all a humbug, and the sooner people find it out the better.

L. C. Root, of Mohawk, a scientific

bee-keeper of experience, says in the January number of the magazine:

"There is too much of this spirit of getting something for nothing, or at least, of realizing great results from little labor before the world. The prime reason why I recommend bee-keeping as a business, is, that those who engaged in it are sure to earn all they get," and in this he will find not a few to sustain him.

I am often asked, if I would recommend it as a business. My reply is, I certainly should, if you are adapted to it. First satisfy yourself on this point, and remember the best authority on the subject says, that four out of five of those who enter the business fail to succeed. Be moderate in your purchases, learn the business thoroughly, and I assure you a delightful field of investigation is open to you. It is a pleasant, active, out-door business—one that employs all the powers of mind and body, bringing us into close communion with the finer manifestations of our Creator's wisdom, in the nice adjustment of things, to meet the wants of his creatures.

There is much difference in the enjoyment of life to one engaged in some active out-door pursuit, breathing pure air, thoroughly oxygenating his blood, with a good appetite, and better digestion.

As compared to a man whose sedentary habits bring to his lungs the impure air of ill-ventilated rooms, with a poor appetite, and poorer digestion, dyspeptic and despondent, in consequence.

It is not the rich who get the greatest enjoyment out of life; not the millionaire who goes bustling through the world, but he who is engaged in honest toil, with more vitality than is needed for the day's business, always some to work off in fun and frolic. When I am well I am happy, and when I am sick I am miserable, regardless of other conditions. Hence if bee-keeping does not pay in dollars and cents, as well as to stand between producer and consumer, and toll the production of the world, or to exchange money at one-half of one per cent. profit, we are the happier.

And if it is as we are told, that the "chief end and object of human effort is happiness," the balance is then clearly on our side, and in favor of our business.

As an article of food, honey is of great value. "Milk and honey" has long stood a synonym for prosperity and happiness.

At the first meeting of this Association, at Albany, some of you will rember the German who was in regular attendance, and manifested such deep interest in our proceedings. At the last session, on being asked for remarks, he replied, in broken English: He could not make a speech, nor did he know anything about keeping bees, but wished to say he had been greatly interested in the subject, and that he read in his Bible of a 'promised land'—a 'land flowing with milk and honey,' and often thought this beloved America, the land of his adoption, was that land; that nowhere on the face of the earth was milk as pure, plenty, and cheap, as here." And, "gentlemen, if I can believe one-half you say, honey will soon be as cheap, in proportion to its value."

It has been rather humiliating to most of us, certainly so to me, not to be able to meet the change in climate, or whatever it may be, and thus avert the great mortality in wintering and springing that is so fatal to our business.

Great progress has been made in summer management. What now we most need is carefully conducted experiments on winter management, with results reported, to this and kindred associations, to be studied, and a system evolved therefrom that will benefit all.

I think the time will surely come, when we shall make bee-culture profitable in the poorest seasons, and winter them as certainly as farmers do their stock. The fact that some wintered successfully during the great calamity that befel our bees in the winter and spring of 1872, is an argument to this end.

It is our province to so develop the science, and increase the production of honey, that this delicious article of food may be within the reach of all. Then will the inference of our German friend at Albany be fully sustained.

For the American Bee Journal.

Undesired Experience.

CHAPTER II.

The winter of 1874 and 1875 brought its own trials. As colonies, our bees were, in several cases, brought to the verge of destruction. They perished in such numbers that again and again, we wondered how so many could be taken and a remnant still remain. However, April 1st found bees and a queen in every hive, and —thanks to the protection afforded by their chaff-packed outer boxes—the weakest handful was taken safely through the spring, and, by June, had become a thriving colony.

Although persuaded that our fears, with respect to foul brood, had been groundless, none the less carefully did we watch for a re-appearance of the evil—whatever it might be — which had alarmed us. Through April and May we made repeated and thorough examinations in each colony. More especially did we keep under surveillance the combs at No. 7, in which hive, as may be remembered, we had found dead brood the preceding August. But we could discover no trace of disease, and each fruitless search was an

occasion for renewed self-congratulations.

By the middle of June we had grown less vigilant; partly, because of a comfortable assurance that all was well; partly because the swarming season brought, as usual, new cares, perplexities and delights. Just at this time—looking into No. 7, one day, with some thought of dividing the colony—we again found dead brood. Not, as before, confined to one comb, but quite evenly, though sparingly, distributed throughout the hive. We judged that there were twenty or thirty dead larvæ to each comb. And—to us the most alarming feature of all—the caps to many of these cells were perforated! We could no longer, as hitherto, allay our fears by reflecting that all descriptions of foul brood made mention of perforated caps, and that these we had not found. Here, plainly enough, were the perforations! As to the fact that the odor was less offensive than that which foul brood is said to emit—this might be explained by supposing that the disease had not reached a sufficiently advanced stage for the complete manifestation of all the disagreeable symptoms.

Bitterly did we reproach ourselves now that we had not destroyed these combs the preceding season. For, admitting the disease to be foul brood, we at once concluded that its re-appearance must be consequent—as Dzierzon says, is not unlikely in such cases—upon "infectious matter remaining latent in the hive." Subsequent developments induced us to question this; and a strong doubt of it was at once suggested when, on the next day, we discovered that our very best colony, No. 3, was affected quite as badly as No. 7. There had been no interchange of comb—no communication of any kind, between the two. We had noticed no robbing. The fact that the disease had made no more progress in No. 7 than in No. 3, also seemed to indicate that the former could not justly be held accountable for the troubles of the latter.

That some unknown cause had produced the disease in each hive, independently of the other, seemed most probable. And it was as easy to suppose that, in the case of No. 7, it had been re-introduced, as that, through the fall, winter and spring, it had lurked unmanifested in the combs which—after all, we wished had been destroyed!

We resolved to trifle no longer; we would destroy the combs, and put hives, frames, and everything but the bees, quite out of the way. As both hives were full of brood, and the proportion of diseased brood was so small, we decided to begin by dividing each colony; putting the greater part of the bees, with their respective queees, into empty hives with new, empty frames. Nothing that had had communication with the old hives was left anywhere in the vicinity of these new colonies. The hives containing the infected combs, with bees enough in each to care for the brood, were removed some distance and placed side by side, with entrances so contracted that but one bee could pass. We purposed to leave them thus till all the healthy brood should have emerged; taking care that a new supply was not started. Then we would unite the bees, putting them in a new hive, with empty frames, and—as we flattered ourselves—should have secured three strong, healthd colonies, from our two strong, but diseasey colonies.

Our plan was faithfully carried out. The new colonies were watched a little at the outset, to see that comb-building went right, and then, being adjudged in no need of further treatment, were left quite to themselves. In the old hives the healthy brood duly matured, while the diseased brood was removed by the bees. (By the way, I am convinced that the bees attend to this matter much better after the removal of their queen; perhaps because the nurses—relieved from their ordinary duties—have the leisure and the inclination to act as scavengers.) When the colonies were united, there remained in these combs—twenty-two in all—no trace of anything wrong. We extracted the honey and put hives and combs in the garret till we would have leisure to melt the combs into wax.

Meanwhile, the united colony troubled us by persistently remaining very much on the outside of its new dwelling. Nearly forty-eight hours had elapsed, when I said to Nellie:

"Those bees seem too much discouraged to go to work. There can be no risk, surely, in giving them a comb of honey, now."

Much pleased were we to see how quickly the bees poured into the hive, on receiving the honey. Much less pleased were we, three hours later, when, every bee having supplied itself with all the honey it could carry, the whole colony rushed forth, rose high in the air,—a magnificent body they were!—and moved off in a straight line for parts unknown. It was not particularly gratifying to reflect that their conduct had been such as should have given abundant warning of their design.

As, after seeing the bees safely off, I returned through the bee-yard, feeling, for the moment, very much in need of consolation, I paused to look at the best of the two new colonies, made from No's 3 and 7 more than three weeks before. The hive was very nearly filled with comb, and the sheets of capped worker brood, with their regularly quilted and delicately browned surfaces, were indeed beautiful to see.

I was just beginning to realize that, in due time, we should recover from the ef-

fects of the bereavement we had just suffered, when, more from habit than because I thought anything wrong, I drew a pin and removed a cap which seemed just a trifle too flat. A dead larvæ was disclosed. Another, and another, and still another, were uncovered in quick succession. Then I gently replaced the comb, closed the hive, and walked into the house to—*meditate!*

I confess that bee-keeping seemed to me, just then, nothing but "vanity and vexation of spirit."

Next day we mustered courage sufficient to make a thorough examination. We found that in most of these new white combs, a fifth, or more, of the brood was dead. Many of the dead larvæ were still white, though dull and flaccid, while many others were but slightly discolored. Usually, though not invariably, the more suspicious the appearance of the cap, the further had decomposition of the larvæ beneath it progressed. None of the caps was perforated, and, in very many cases, it was quite impossible to distinguish the caps which concealed dead larvæ from those which covered the living. Pruning—which has been recommended—would, at this stage, have been an impossibility.

Proceeding to examine the other colony, we found here also traces of disease; very slight, however, for, fortunately, the queen had been lost about a week before. This colony, after contracting its hive-entrance, we left to its own devices.

From the first, we removed the queen. A few days later, we looked in to find that the missing perforations had duly appeared—made, of course, by the bees—and that the work of removing the dead larvæ had begun. By the time the healthy brood had emerged, very nearly all the dead brood had disappeared.

We now selected from the twenty-two condemned combs, still in the garret, ten perfect combs. These we put in the place of the new combs just emptied of brood. We disinfected neither combs nor hive. We left even the quilt unchanged.

That the remedy we had supposed infallible—putting the bees into an empty hive—had failed, was, to us, at first, as incomprehensible as it was discouraging. But, that we should now hope to succeed by leaving the bees in their infected hive, and giving them presumably infected combs, will be, perhaps, equally incomprehensible to some of my readers.

The explanation is simple. We assumed that the hive and combs were *not* infected; that the disease, *in that form in which we had encountered it*, was not contagious. We explained its immediate re-appearance in the new combs by supposing that, at the time of the division, the bees had access, still, to the honey, or the pollen, which contained the principle so fatal to the brood. And it seemed reasonable to suppose that this supply must now—nearly four weeks later—be exhausted. Consequently, should the disease at once re-appear, it would prove our assumption, viz., that hive and combs were not infected, untenable. To have this proven to our satisfaction would be something gained, even though the colony should be lost.

We waited the result of our experiment with some anxiety, and were proportionately relieved, as the weeks went by without the appearance of further symptoms of disease. When prepared for winter, this colony had, apparently, as fair a chance for future prosperity as any of its neighbors.

The second colony was again unfortunate with its queen, and became quite reduced in numbers. When free from brood its combs were extracted and returned. There was no appearance of disease after this. After providing them a queen, the mere handful of bees were left quite to themselves. They succeeded in building themselves up into a colony which has wintered safely, and will, without doubt, pass safely through the spring.

Quite late in the season—about the 10th of September—a few cells of dead brood were discovered in still another colony—No. 1. The caps were perforated—the larvæ more or less decomposed. Perhaps the most noticeable feature of this case was the comparatively slight effect produced upon ourselves. (The unnecessary loss of a favorite queen, in uniting two colonies, a few weeks later, disturbed our equanimity far more.) We at once removed the queen, who, by the way, was *not* a favorite, and allowed the bees to immediately raise another. When prepared for winter, Oct. 13th, no brood had been reared. Yesterday, March 6th, we looked into the hive, finding an unusually strong colony, with plenty of capped brood; and, in the one brood-comb we examined, no trace of foul brood.

That the disease may re-appear during the coming season is, perhaps, not improbable. We have little fear, however, that we shall not be able to effect a dislodgment of the unwelcome guest before the visit shall have become a visitation. We are fully persuaded that, *when discovered in its earlier stages*, it may be very easily eliminated from the colony in which it appears, and that without the loss of combs.

It may not be out of place to add, in conclusion, that we have no bee-keeping neighbors within six miles; in fact, we have no knowledge of any within a dozen. We have never sold a colony, nor shall we sell one to be taken beyond the limits of our own neighborhood during the coming season. Our apiary is becoming quite

too large for us; nevertheless, we shall endeavor to faithfully watch over every one of our twenty-five colonies, for, at least, another year. CYULA LINSWIK.

For the American Bee Journal.

The Old System vs. the New.

It has become the custom, of late, to figure up the results of apiculture, on a very small scale. Upon this plan I will give the result of a colony of bees, or rather, of a farmer's experience in the bee business, near here, just as he recently gave it to me. He worked on the old system. While plowing in his garden last June, a very large (probably double) swarm lit on a bush in said garden. Farmer ran for a barrel, and hived them in it. In the fall he had good sense enough to "take up" aforesaid barrel, etc., which was over half full of honey, etc., particularly the etc. To say the least, he got 100 lbs. of *honey*, worth say, 15 cents per lb. Here are the figures:

Big swarm lit on a bush....	$00 00
Barrel (second-hand, salt),.....	00 20
Time spent hiving	00 20
" "taking up,".....	00 30
Sulphur.....	00 05
Total	00000 75
Receipts	$15 00
Net profits	$14 75

Gentle reader, what per cent is that? Please tell. I am a poor scholar and can't work out *very* profitable problems. Whose "patent Gum" will beat the "old system," after all!

This neighbor will probably trade his farm for 10 colonies of *black bees* in salt barrels; then run up to 10,000 colonies (all in salt barrels),—but hold on! these second-hand salt-barrels will cost $2,000, and what bee-man can show $2,000?

A LETTER

from a bee-keeper reads as follows:

"DEAR SIR.—I see in the JOURNAL that you take a different course from most apiarists, and instead of praising the business, you 'throw cold water' upon it. I am informed, by good authority, that you have made, and laid up, money at it, which is plain to be seen—the reason you discourage it. A California honey producer is doing precisely the same thing: He has also been successful.

* * * * *

Yours etc., ———"

Everything is evil.

I wish my friend would get this "good authority," and come here and help me find the money that I have "laid up." It must have *gone up* higher since I "laid it," for I could not reach it if I needed it to buy bread. Why could not our brother imagine that those who have met with even partial success, know by what hard work and untiring energy it has been reached, and thus know better than to credit it to the business. But for argument's sake we will suppose that our friend's views are correct, and that the "successful" ones cry "poor business." Then it naturally follows, that the ones who cry, "very profitable and neglected pursuit."—"splendidly adapted to women and invalids."—"very little work about it," and all such nonsense, are not successful, or that they have *some other reason* for "praising" the pursuit. I have never thought that apiculture *could* not be made a business as paying and respectable as many other lines of production; but that "anybody" who can pay for a patent hive, queen bee, bee-feeder, moth-trap, non-swarming attachment, queen cage, queen nursery, tin corners, and one thousand more traps, too numerous to mention, can set down a few bees "most anywhere," and SUCCEED, I do most emphatically deny.

Very *many* conditions must be present, or success is only one of the things that is *going to be.*

These conditions are only *known* to those who have "been through the mill." The very requisites to succeed are the last to be imagined by the novice.

JAMES HEDDON.

Dowagiac, Mich., Mar. 6, 1876.

For the American Bee Journal.

How to Ship Box-Honey.

We make large crates that will hold two hundred pounds. They are high enough for two tiers of honey-boxes, and the crates have a three-inch strip nailed on each side, near the top, with clinch nails. These strips are long enough to extend past the ends of the crates three or four inches, forming handles to carry them with.

We put in a tier of honey-boxes, packing them tight together with the bottoms up, then a layer of heavy paper to prevent the upper tier from leaking on the lower. After the crates are packed full, we nail some strips across the top, so that the boxes cannot be lifted out, yet can be readily seen. We haul the crates to the depot in a light spring wagon, and require the parties to whom we ship to, to furnish the same to haul them to their place of business. All the express wagons and drays in the cities have such heavy springs, and the pavement is so rough that it is almost impossible to draw honey on them, even a short distance, without breaking it. I hauled one thousand pounds of honey on a two-horse spring wagon sixty-five miles in a day and a half, without injuring it, and had the same badly broken by an express-

man hauling it less than a half mile. All grocers and honey dealers have light spring, delivery wagons, and in shipping I always request them to haul my crates with such wagons, and seldom have any broken honey. A. G. HILL.

Kendallville, Ind.

For the American Bee Journal.

Another Danger.

MILK AND HONEY—APIARY, BEESWAX CREEK.—March 12, 1876.

From the various conventions, and the correspondents of your valuable paper it seems the much advertised extractor has for the present, like other things, had its *run*.

From the same source it also appears that the only *real panacea* for low prices is the royal *seal* of the worker bees. This it is said with *small gilt-cornered boxes* will to all time secure the lonely producer against an overstocked market, and secure the very remunerative price of twenty cents per pound.

Now, Mr. Editor, allow me to state that "there is no royal road to fortune."

It is also reported that extracted honey will not sell at a greater price than 9 cents per lb.—which may be true—yet even this like other prophetic visions—for instance, 20 cents per lb. for fancy glass and wood and *melted beeswax foundations* may never again meet that modest price.

Bee-Keepers like spiritual mediums have ever been a prophetic class; nor is their end yet come—Jasper Hazen counts the heads of clover on a ten-acre lot and lifts up his reverend head and prophetic are his words. And right here let me observe a few small straws which aid the Bee-Keeper Prophet in "making up his slate."

A once noted "Bee-charm" vender and keeper of bees, is now a Dr.

A twice noted Bee-Keeper, once for catching a honey shower—once for a *Knew I Dear* Hive, has turned to Doctor also, and water! oh, water is his *Pill*.

A once noted writer for the "Old and reliable" Bee Journal—who secured also *one* honey shower in cisterns and such other small bottles as his P. G. could furnish, is now engaged on "our homes" with a prophetic view of editing a religious journal devoted to B-agriculture and dyspeptic stomachs.

While I have named only three distinguished straws, they are enough I trust to show the direction of the wind, and to justify even the casual observer in believing that it pays better to *advise* others than to raise honey even at the rate of 500 pounds to the hive. Various occupations have developed remarkable genius in men, and most of these trades have been the source of large fortunes and high social position. And, Mr. Editor, just now Bee-keeping, sweet in her splendor and rich in the perfume of Buckwheat and Bass-wood, holds out her magic hands to the charmed Novice—the would be Bee-Keeper—and in tones so sweet—enquires, "Would you not like to invest in a rural paper devoted to honey culture, won't cost only 25 cts. and will put you on the right track, keep you posted as to the price of honey and just how much to take without bursting your cisterns. It also will show how many feet longer is the honey sucker of the imported than the native or vulgar black bee—and really don't you love the smell of red clover? Well these long honey sucker bees just take honey out of red-clover as humming-birds ravish the sweets of Bouncing-Bess. They are a cultivated race—not unlikely, the same beautiful bees taken into the ark." You see their *gentle* ways would have won the *admi*-ration of the great and distinguished patriarch and his beautiful family. His eldest daughter had blue eyes and was a great Pet with her papa and was a match for Capt. Cook in entomology. What she didn't know about *beetles* wouldn't make—no lie! it wouldn't—make a primer.

This charming blue-eyed daughter wanted to have her honored sire sell elephant's eggs, from imported mothers, at two cents apiece, or a dollar per square inch, postage paid; but the old gentleman had not heard of the tiny shoe worn by Ex-Secretary Mrs. Belknap, and quietly arranged his vineyard and set out a large number of those distinguished hexagonal Concord grape vines, which soon after enhanced the price of smoky paper to such an extent that it could not be afforded at so low a price—25 cts., after paying the revenue on the wine. This fact made another change of base necessary to meet current expenses. Recourse was then had to those primeval shrubs, in common phrase called basswood, and on went the improvement, excuse me, ("evolution,")—and up went smoky paper to 75-100 of a square inch of elephant eggs from imported mothers. It now seemed that Blue Eyes was happy; P. G. as sweet as the nectar of wild [illegible] and golden rod. But, alas—in modern as in ancient days, "things grow by what they are fed on."

Those magic corners which had swayed Bee gums—and forests and grape vines—and numbered only six, must be increased, the evolution must go on; Hexagony must evolve Octagony, and smoky paper, once only 25-100 of an inch of elephant eggs from imported mothers, must evolve 100-100 of an inch, or "our homes" would be desolate—even the exceeding low price for evolution of bean soup would not mitigate the disaster.

I commenced to write about—well—I have forgotten my text. I think it was those *delicate* beeswax comb foundations

to be used in starting obdurate and pugnacious insects on the right track.

Now, Mr. Editor, just here let me put in my public plea—and you please give us all a lift—if for no loftier reason than to serve your own interest. Honey comb is one thing, beeswax is another, and very different thing. Butter (I mean fine butter) is, as all know, a very palatable commodity. But if we melt said fine butter—it is butter no more—it is *grease*. The same thing holds true of nice honey comb. *No wax foundations* can be made which will not *contain enough wax* to build a comb two inches thick.

C. O. Perrine used to advertise the evil effects of honey comb-on the delicate membranes of stomachs highly evolutionized, and his card purported to be from that "*Distinguished Physician*" we hear so much about.

If honey comb is not compatible with highly evolutionized stomachs, what will be the effect of wax foundations on such delicate and highly evolutionized people as fancy 20 cents honey is put up for?

Echo answers, Please Mr. Beeswax—no more foundations on my plate—I prefer the superstructure on the "untoothsome extract."

Really, I think you will be quite out of patience, Mr. Editor, at the idea of furnishing so much evolution to my orthography, but my early evolution was not favorable for spelling matches.

My brag gift is in not saying what I mean, but here allow me to switch off and say a few words about The new Elephant—probably the offspring of the one above referred to. I mean honey and the enormous dividend it brings. Whisky ring and sutler posts are mere nebulæ compared with it.

Much advice has been given gratuitously on this at present all-absorbing topic. Conventions have appointed committees to sell it for them, and in such way made effort to assist those who have been so unfortunate as to get a snuff at the ambrosial bag. Some have pointed to this and some to that as the cause of the present low prices. Some have—in consideration of the fact that it costs nothing to advise others what to do—spoke their piece and feel as if the load had been lifted from off their shoulders. All are now waiting, I presume, for me. And, Mr. Editor, were it not for my exceeding modesty, I believe I would just let the cat out of the bag right now. As it is, I will, with remarkable candor, say that probably there is no royal road to success, and that very likely people who have arrived at that point when the low price of honey will not justify further pursuit of the enchanting pastime—will know what to do—and it may be that some future historian may record the fact that "*industry* has been diverted from its natural course and heaped on the poor unsuspecting bee. This may cause evolution philanthropists to rejoice—perhaps a few of those—who request "stamp for cincular," have already smelt the simoon in the air.

Would it not be well for people who have machinery adapted to their locality and have done well, to continue on quietly and economically and get rich? This last is a question merely. My interest would say, "Send stamp for circular."

T. F. Bingham.

P. S.—Italian queens made to order. Orders filled in rotation.

For the American Bee Journal

Sundry Items.

Mr. Editor:—In your last issue there is an account of the proceedings of the Mississippi Valley Bee-keepers' Association, and one of the interesting questions discussed was: "Do bees make or gather honey?" Prof. Riley said, "He was satisfied bees made honey." Now, as this is an age of progress, we want all the light we can get upon this unsettled question; and as Prof. Riley is a naturalist and a close observer, will he be kind enough, at the next meeting, in April, to give his views, fully, upon this subject? As the Mississippi valley covers a good deal of territory, would not the "Missouri Bee-keepers' Society" be more appropriate than the name they have chosen?

In speaking about societies, I may here say,—and so say all with whom I have conversed upon the subject,—that it would be far better for the National Society to adjourn *sine die*, and let every State have its own Convention.

Allow me here to say, Mr. Editor, that I am more than highly pleased with the back volumes of the Journal you got bound for me, and three makes one beautiful volume. I would urge upon all to get their back volumes bound, for the price is so low, I do not see how they can be done for the money. My bees have come out as clean and dry as I ever saw them, but rather weak, owing to the numbers lost in the house during the warm spells.

Argus.

For The American Bee Journal

Feeding Bees.

Mr. Newman:—Dr. Wm. Mitchell, of this city, informs me that some twenty-five years ago he purchased a swarm of bees in a box hive at a sale. He carried them home on horse back. They were destitute of honey; his wife baked some corn bread; he cut off the top crust and poured molasses over the bread and placed it under the combs. The bees ate both the molasses and corn bread, went through the winter, and gave him a large swarm the summer following. T. G. McGaw.

Monmouth, Ill.

For The American Bee Journal.

House Apiary.

In the February number of the AMERICAN BEE JOURNAL I charged "Novice" with a want of candor and fair dealing in regard to the house apiary question.

His answer in the February number of *Gleanings* demands of me a few words by way of correction and explanation. He does not attempt to answer any of my charges, but makes a desperate effort to extricate himself from a very awkward position. And, like the man struggling in quick-sand, only sinks the deeper.

He says, I write in a way that shows that I feel as if I had been wronged. To this I would only say that those who have read *Gleanings* and the AMERICAN BEE JOURNAL the past year, know as well as I do that I have just cause for complaint, and yet I feel that the greater wrong has been done to the cause of bee-culture.

If every attempt for the advancement and elevation of our profession is to be met with such a spirit, we shall not see the progress that we might reasonably expect. Every member has a right to demand a *candid* as well as *thorough* examination of every question that looks to its improvement.

I believe that scientific and profitable bee-keeping is yet in its infancy, and that it is capable of being developed into one of our greatest national resources. Bee-keepers as a class are industrious, intelligent and persevering; and if they work harmoniously to one end, all opposing difficulties *will* be overcome.

Novice next says, "Had I told Mr. Coe in plain terms, just what I thought, when he was a guest at our house and when I was a guest at his own, there would probably have been no misunderstanding."

Why was it that he did *not* tell me *just what he thought*, when that was the very thing I wanted and asked for? I told him I was then engaged in putting up "*trial apiaries*" in different parts of the country for the purpose of having the system thoroughly tested before offering it to the general public, and that I asked for it nothing but the severest criticism—wishing it to stand entirely on its own merits. Why then, I ask again, did he not, for the sake of bee-keepers in general, and his "dear readers" in particular, speak out boldly, and thus prove to them, that they had placed their interests in the hands of a faithful keeper. There was certainly nothing in a letter I wrote him, the day after his visit that could have induced him to make a *favorable report* without regard to facts. It occurred to me, that as he had been *my guest*, and I had been "very friendly indeed" and "very liberal in offering the right gratis," that he might be led to speak more favorably of my apiary than his relations to his "dear readers" would warrant. So I wrote him, reiterating what I had said to him before, and charged him to say nothing in its favor but what he believed would be fully verified by practical tests. Yet, in the face of all the facts which are fully corroborated by all that I have said on the subject, both in *Gleanings* and the AMERICAN BEE JOURNAL, he has the unblushing affrontery to say "Prof. Cook *did* tell me that he feared I had not given Mr. Coe the credit he deserved; but in justice to my readers, who certainly should have facts, without any regard to the friendly way in which Mr. Coe had treated *me*, I can but think that my report of that visit did him *more than* justice, and hence my present inconsistency."

If his inconsistency, to say nothing of willful misrepresentation, is not yet fully apparent, I think it will be after reading *the report that did me more than justice*, which can be found in July number of *Gleanings*. I extract from it as follows:

"On the 10th (June) we paid a visit to Mr. Coe, the patentee of the house apiary. The building is very pretty and tasty, and the bees going out and in through the sides with the square of different colors painted over each entrance, gives an affect on a grass lawn, that to our eye is *decidedly* ornamental. On looking into the interior the visitor is even more delighted, for arranged on broad shelves on either side, are observatory hives, having a glass over the outside comb, that gives a view of all the workings of the hive. The frames are close fitting sides. Mr. Dean who accompanied us, was so disgusted in his attempts to open and close a hive without killing bees that he denounces the house altogether unless it be for box honey."

Now Novice knew very well that the particular hive used had nothing whatever to do with the merits of the house, as it is adapted to the use of almost any style of hive. The fact is, that before the report was written, he had resolved to appropriate to his own use the property of another, without the owner's consent. Very soon after visiting my house apiary he built one himself. The walls of his house are a series of dead air spaces made of paper. Of whom did he get that idea? He says he got his idea of a house apiary from Mr. Moon. When Novice decided to appropriate to his own use, without my permission, what had cost me much study, labor and money, it was quite necessary for him to make a plea in justification of his course.

The following are a few of the more prominent points: "Similar houses have been in use for years." "Mr. Dean denounces the house." "Coe's apiary seems to embody a mass of complicated fixtures that would be worse than useless to us." "We think Mr. Coe's claim much too strong." "Since I have mentioned the

the house apiary in GLEANINGS, more than a dozen have come to light." "I did admire and do now his house apiary but declined then and should now, one like it for real use." "We are not able to discover any thing in Coe's apiary that has not been in use." "Mr. Coe gave us no instructions for building our house apiary."

Why all this *special pleading?* Well may Novice exclaim, "hence my present inconsistency."

> "Oh what a tangled web we weave
> When first we practice to deceive."

As a proof of his great regard for his "dear readers" (I am one of them) Novice says, "I do dislike to see hard earned money go without bringing a fair equivalent." He evedintly refers to the dead air spaces and other fixtures of his house apiary. He also says, "It is very probable that in my dislike of patents, I am looking with prejudiced eyes." That certainly can't refer to me for I never received a dollar for a patent, never dealt in patents, not even *metal corners*.

Again Novice says, "When one sets out to defend himself he is pretty sure to do as I have done in the above lines—made it appear that Mr. Coe is all wrong and that I am all right."

True, he has done it up pretty well, and "made it appear," and yet one more item might make it appear still plainer.

I wrote an article for last November number of *Gleanings*. It was not refused as it might have been with some show of justice, but a part of it, only, was published—changing its whole form and meaning. I am so opposed to occuying our journals with personal affairs, that I would have endured in silence even this gross injustice, if it had been permitted to drop there, but it was followed up till I was obliged to speak.

The article was as follows:

DEAR NOVICE:—On page 131, GLEANINGS for October, R. H. Mellen asks of you information regarding house apiaries, and in your answer you take occasion to say that Coe's apiary seems to embody a mass of complicated fixtures that would be worse than useless to you, and on another page—same number—you very flippantly remark, "We fear we have been a little rough on friend Coe's apiary on page 131." Now if your answer to Mr. Mellen is a candid, straightforward one, intended to forward the best interests of our fraternity, I will not call it in question.

I desire for my apiary the severest criticism, and the most thorough practical tests, but it is desirable that they should be made in *good faith*, and with a view to the improvement of our profession. The "expensive ventilators" spoken of, if made of wood, would not cost more than two or three dollars, and the painted entrances not to exceed fifty cents. More expensive ones could be used but they would be no better except for the looks. The house itself may be built of any form or dimensions, and any style of hive can be used in it though I prefer the close fitting frames, without box, or the simplicity with some modifications. For common use, and particularly for box-honey, the form of the building should be rectangular, that form is more convenient and *very much cheaper* than the octagon. When the extractor is to be used, and one chooses to add the extra expense, the rectangle and hexagon combined is the most desirable. A house 9 x 15 feet will accommodate fifty hives and give ample space for eighty 1½ pound surplus frames to each hive, and for handling the hives to advantage. Such a house built according to my plans will cost at least a third less than a building of the same dimensions built in the usual way, and less than fifty *good* outdoor hives.

As to my claims in THE AMERICAN BEE JOURNAL being "*much too strong*," I can only say, that the matter is in the hands of the bee-keepers of the country, and I have no doubt they will decide it properly. If the claims are sustained—as I have no doubt they will be—it will work an entire change in the mode of bee culture, and save millions of dollars every year that are now wasted; and will also open up an avenue of healthful and remunerative employment for the ladies!

Montclair, N. J., Oct. 12, '75.

Only the latter part of this article was published commencing with "I desire for my apiary the severest criticism." There are several other points in Novice's article that demand a notice but I will pass them, as I have already occupied too much of your valuable space. J. S. COE.

For the American Bee Journal.

Stray Thoughts.

Well, the season is over and I did not reach the 30,000 lbs. I have taken 20,375 lbs. and increased the 150 stands to 317. This is doing quite well to begin with the season half gone. I give all fair warning now though, that next year *I will excel any bee-keeper in America.* That is, I intend to take more honey from 200 stands of bees than any one else will from that number. All take fair warning and be prepared.

Although the bee-keepers of the U. S. are advancing rapidly in the Science of Apiculture, yet I think there are many things to be learned yet. One leading idea is that of

THE PROPER TIME TO DIVIDE SWARMS.

The popular theory is in the beginning of the season. But where both honey and increase are desired, I think this a great

error. The season here has been rather an unfavorable one—and most Apiarists divided their bees early, and the poor season coming on just before the time for storing surplus; the result was that when the season did come for storing surplus honey, the bees were not in condition to store, and failure was the result. The plan I described in the Sept. No., I think far the best. That of waiting until the best of the season for surplus, building the bees up in the meantime, then remove the queen with two frames of capped brood and a few bees, to a new hive. Then I would add I think "Novice's" lamp nursery would come in nicely and the bees would be helped along considerably, by slipping a young queen into the entrance of the old hive. As I stated before, the bees would not miss the loss of the two combs, and while the hive was without a laying queen the bees would store much more surplus than while they had one. Besides the old queen with the two combs would very soon be in a condition to build comb and will soon strengthen up to a full sized colony. The old queen's wing should always be clipped.

If honey is desired as well as increase, I think the above plan much preferable to "Novice's" plan of giving the new queen to the new swarm or nucleus. I have never tried the "Lamp nursery"—I always introduce a cell, think I shall try the nursery the coming season.

Wishing all eastern brethren success in wintering, I am as ever, AMATEUR.

Anaheim, Cal., Oct. 8th, 1875.

For the American Bee Journal

Extracted Honey.

In the last number of the JOURNAL we see that some bee-keepers, and more especially, Messrs. J. Heddon and H. A. Burch, are strongly opposed to the production of extracted honey. In fact, from what they say, the beginner in apiculture would infer that the production of extracted honey is a real curse for the practical bee-keeper.

It may be, that in some localities the extracted honey is of slow sale, especially when it it is not known; but wherever the people become accustomed to using it, it soon becomes a readily salable article.

We have been using the honey extractor every season, regularly, ever since it first made its appearance before the bee-keepers of the world, and to-day we prize it more than ever. When we first offered our extracted honey for sale, we sold but little of it, for the American consumers were not accustomed to it, and in the seasons of '68 and '69 we did not sell more than 200 lbs. of it, around us. Now we sell over 2000 lbs. of honey right around home. Why is that?—Because we have created a market for it; because it has given satisfaction.

We have never had much difficulty in getting rid of our extracted honey, at prices ranging between 13 and 18 cents. We would much rather produce extracted honey than comb-honey; 1st, because we can produce more of it; 2d, because it is more easily transported.

We cannot agree with Mr. Burch when he says, that honey is essentially a luxury. Honey has been a luxury as long as consumers could not get it at reasonable prices; but now, wherever good extracted honey is retailed by the producer at 15 cents per lb., it is becoming a staple article of diet. Wax is indigestible, therefore unfit for food, and this is the reason why good extracted honey will always be more likely to become a customary article of diet than the fancy comb-honey.

If the discussion of the adulteration of honey, has, in any way lessened the demand, it has lessened only the demand for adulterated honey, and has increased that for the real genuine, *granulated* article.

Mr. J. Heddon says that he believes that the extractor has kept us in ignorance of the true principles of comb-surplus production. He might more truly speak, if he said so of himself alone; for he should remember that there was a time when the extractor did not exist, and of course, at that time we had quite a chance to test the true principles of comb-surplus production.

Let Mr. Heddon test and ascertain the true principles of comb-surplus production. We will tell him beforehand, that we have tested them long ago, and that we found that the production of extracted honey was much more profitable than that of comb-honey.

In hunting among the back volumes of the old AM. B. J. we find an article from Mr. Heddon, (vol. 6, page 159,) in which Mr. Heddon shows that he likes theory. Let us, then, give him some theory on the subject of the extractor.

All, or nearly all, the most renowned writers on bee-culture agree that wax costs to the bees between 10 and fifteen pounds of honey for each pound of wax secreted. Taking it for granted, then, that the combs cost to the bees such a large quantity of honey, the reader will at once see what advantage there is in returning the combs to the bees. But this is not all. By the production of comb-honey, the bee-keeper keeps no empty combs for his bees to fill, and when the season begins they have to build their surplus combs anew. In so doing there is a great loss of time, for if, when the honey crop begins, they have no empty cells at their disposal, they have to remain idle until enough wax is secreted to manufacture some combs. Besides, especially with the Italian bees, when the

honey crop begins the bees fill up the brood chamber so thoroughly that there is no more room for the queen to breed, and without the use of the extractor the bees would be unable to keep up their numbers by reproduction, and would dwindle down and die away; simply by too much wealth.

Again, when the bees harvest honey late in the fall, and have not time to cap it all, the honey which remains uncapped, *if not extracted*, will absorb moisture and will destroy the bees that will feed on it during the winter, as Mr. Heddon had a chance to see during the winter of '70–'71. This we gather from Mr. Heddon's own testimony, page 261, vol. v. of the old and valuable Am. B. J. (48 colonies reduced to 6.) Why then should we oppose the use of the extractor and the production of extracted honey?

Mr. Heddon seems to be afraid that if too many persons engage in bee-keeping, that business will become unprofitable, —because too much honey will be raised. My impression is quite different. If much honey is raised, the American public will become used to it, and will regard it as a necessity of life, and it will be one indeed.

Let us say then, to the beginner in bee-culture: Do not be afraid of bee-culture; it is a profitable business, notwithstanding all that Mr. Heddon may say to the contrary, and the best proof that it is profitable is, that Mr. Heddon still sticks to it, although he has had as many drawbacks as any one of us.

Raise extracted honey, and sell it at home, or around home. Do not extract it when too thin (a little practice will soon teach you when to extract). Keep it clean. Teach your customers to use granulated honey, and to reject the liquid article, and you will not need to be anxious for a honey market.

Do not be afraid if your neighbors go to keeping bees, for there should be room for all,—except the dishonest ones,—and the editors of past, present, and future bee-papers, with their proselyting, will never do so much harm to the business as one or two dishonest dealers or adulterators, Mr. Heddon to the contrary notwithstanding. Go ahead, honey producers!

C. P. Dadant.

Hamilton, Ill., Mar. 10, 1876.

For the American Bee Journal.

Shall the National Society be Abandoned?

From the lack of interest taken in its last annual convention held at Toledo, I should think it about at its end, so far as usefulness is concerned. There was only about a baker's dozen of members present, that had attended former meetings of the society; the rest consisted of "new recruits" from the country around Toledo.

At the last session, on morning of third day, the subject of abandoning the Society was discussed, and the utter hopelessness of making it further a success generally admitted, except by Mr. Zimmerman, who insisted that another meeting be held, and Philadelphia be the place of holding the next annual convention. Mr. John Z. Smith suggested that as the National Society was a defunct institution, he thought it would be well enough to send it to Philadelphia for respectable interment, and he named G. W. Zimmerman for President, who was elected unanimously.

At the close of these proceedings, I, with several others, left the hall to visit the apiary of B. O. Everett, Esq., in Toledo, but as far as I could learn, there was but one member (the present incumbent of the Presidential chair.) that intended to go to the Philadelphia meeting.

It might be well enough for amateurs in bee-culture to attend, but the large producers of honey and real bee-men, cannot leave their bees during first or second week in September, without serious loss, as it is just at the time to put our bees in condition for wintering.

Daniel Kepler.

Napoleon, O., March 17th, 1876.

For The American Bee Journal.

To the Public.

Grateful for kindnesses shown me in various ways, in addition to what has appeared concerning my connection with the Italian Bee Company, and Mrs. Tupper, I desire to remove some probable misconceptions.

My partnership was never what was technically called "*silent*." It was published in our first circulars, and I never consented to the suppression of my address in any circular or advertisements. Fully trusting Mrs. T., I managed our Logan apiary and shop, and filled orders as they were sent to me. It was not until in Jan. last that I suspected that there was any design in what had been represented as "*printers' mistakes*." Up to the time of the dissolution of our partnership, my part of the expense of the business largely exceeded my receipts. Without making any claim upon the profits of business in 1875, no customer of the Co. is likely to lose one-hundredth part as much as I do by actual money and stock gone, and that even if I were to refuse to settle those claims upon which I have received nothing. My own assets in settlement are simply the name of the Company and its possible future. Yet in all unfilled orders I expect to meet honor's call *as far as means will allow.*

J. E. Rockwood.

Logan, Iowa, March 15, 1876.

For the American Bee Journal.

Sundry Thoughts.

Noticing your request for such information as your readers would be interested in perusing, I shall endeavor to give such facts as have come to my observation in the past year. The meeting of the N. A. B. K. Society, held in our city in 1874, left us in high expectations for the ensuing year; our bees were in good condition, most of them having abundant stores, and many of us had good reason to think a good supply of the nectar would be secured from the surplus honey left by the colony after they used what they required for wintering; but, alas, a sad disappointment was in store for many of the apiarians of this section. The winter set in early and very severe, and ranged from zero to 20° or 25° below for some weeks at a time; in fact, the ground was penetrated by the frost to the depth of *four feet* and over. Is it any wonder that our bees that were on summer stands consumed their stores within reach of the brood nest, and then literally starved to death before the bee-keeper was aware of their condition? The few stands that lived through this terrible trial had yet further struggles for very existence, for when the warm sun and showers of April called forth vegetation, and the flowers (we had no blossoms of any kind) began to come forth, a heavy frost, about the first week in May, cut off all hopes for a pasturage for our pets, and although some colonies whose condition had been inquired into in time, and come out strong in the spring, succeeded in getting sufficient stores to carry them through this winter, but the bulk of the bees in this neighborhood had to be fed in the fall to enable them to survive the winter. So far, this winter has been very encouraging; the weather has been mild, and the bees have consumed but little of their stores; the fine weather of the past few weeks has given them many occasions for healthy flights; indeed, on New Year's Day, and for some weeks previous, they were carrying pollen from the dandelions and spice-wood. New Year's Day, with us, was like May, and a neighbor, who had some empty hives in his apiary, secured a fine large swarm. Just think of it; a swarm of bees on the 1st day of January. I presume they were a colony that had failed to secure a supply of stores and had deserted their old habitation in hope of bettering their condition, which they did, of course, as our friend, being a practical man, was not long in furnishing the necessary provisions for the support of the little strangers. I have decided to make no more experiments with wintering weak swarms, but will, in all cases, double them up in the fall, preferring to have three or four good strong colonies to ten or twelve weak ones. I lost, this winter, my finest queen, by some cause or other unknown to me. I at once doubled up with another colony. Hoping that fruit and other blossoms may be a success this year, and that the old and reliable BEE JOURNAL may be very successful, I remain, Yours truly, W. J. SHERRIFF.

For the American Bee Journal.

Albino Bees.

MR. EDITOR:—I dislike misrepresentation, from my very heart I dislike it, and think the man who first invented a humbug should be hung in effigy with his inventions tied to his feet, that his neck might support him and his works together. My reasons for thus sweeping at the whole system is not that I believe it totally useless, but that it does more mischief than good, and destroys more fortunes than it creates honestly. I am not in the habit of using harsh epithets, nor do I wish to step on anyone's corns, neither do I take pleasure in wantonly treading on the innocent worm crawling at my *feet*. But when I see a bare-faced humbug, I feel very much like putting it on the ground and placing my stoga square on its neck. I see the following going the rounds of the Bee journals: "The Albino *pure* Bees, the best in the world." This savors much of humbug in our ears—*Albino; White Albino Bees, White Bees*, what are they! Are they a distinct variety of the Bee; a freak of nature, or a cross between two varieties? I am inclined to the latter opinion. I have been experimenting upon them for three years past and as yet I have not been able to get a single queen (and I have reared scores of them) who will duplicate herself. But on the contrary they produce eggs from which hatch every variety from the finest white queens and bees to the straight grey bee, except perhaps they may have white fur on their body. Now why are they the best bees in the world? They may be one of nature's beauties when seen frisking in the May morning sun, but is beauty the only grace that entitles them to be the best bee in the world? Or perhaps the young gentleman or lady who dote upon the sweets of nature, but who instinctively *shrink* from the *sharp points*, when they see they can take out the combs and handle the bees as if they were flies, yet perhaps will not find much surplus honey—may be led to say, "Oh they are the best bees in the world.

The queen-breeder also may conclude they are the best bee in the world, because of the short time she lives, for I have not yet had one single Albino queen who (if she survived the first season) didn't become a drone-layer and finally disappear before the end of the second season, therefore making a market for another. As Barnum says, "Humbugs are what please

the American people," so perhaps we had better *all* throw up the hat for the "Albino Bee, the best in the world."

D. STAPLES.

Columbia, Tenn., Feb. 4th, 1876.

For the American Bee Journal.

Comb Honey vs. Extracted.

My bees have wintered, so far, very well. I have lost only three queens. Every hive is strong but one. This one was foul broody last fall, has only bees in three spaces between the combs but brood in all stages, while I found only eggs in a few of the balance of my hives. I had foul brood in two of my hives last fall. They appear to be cured, however, entirely.

Honey trade was very satisfactory with me this winter as far as quantity was concerned, and if I may judge by the increase of demand in the retail trade, my trade will be better next season.

Is it not amusing how some of our brethren will jump from one extreme to another? It is not long since when everybody struck out for extracted honey. Five hundred pounds to the hive; that will give us a fortune. Yes; The time will come when we shall realize a thousand pounds of honey to the hive, said one of our celebrated (?) teachers in apiculture. We do raise a respectable quantity of honey, and honey has since become an article of trade. Extracted honey is fast getting to be a competitor to cane sugar, while its good qualities are appreciated more every year. Immense quantities are used for table use and for manufacturing purposes, quantities of which we had no idea a few years ago. And yet, we are not happy. How we have sobered up in the face of all these facts! Bee-keeping is a failure, the honey pump is a humbug and a detriment to bee-keeping, says one of our sanguine brothers. Let us all raise comb honey, etc. About such language we see in our Bee Journals at the present time. There is hardly ever anything gained in business, by jumps. It requires energy and perseverence to carry on any business, and there is no reason why bee-keeping should be an exception. Every bee-keeper should raise comb honey and also machine extracted honey, he should take pains to keep each kind of honey by itself and to offer for sale each kind in as attractive a style as possible.

As a business man I know that I must hold my wares only at such prices at which they will take, if I want to sell, and the same holds good with farmers and bee-keepers. It pays every bee-keeper best to work up a home trade, as his honey will bring him the best price from consumers, and the balance only, he should offer to a dealer, who—must buy cheap, of course. It is expensive to handle honey, and more so than people generally think.

There is no mistake but that the machine extracted honey is the only pure honey possible, and it will be *the honey in demand* after a while. Comb honey will remain a fancy article only, but it sells also; let us therefore, each one of us, raise our share of comb honey and let each one of us raise more of the one or of the other, just as he thinks best. But don't let us condemn everything because other parties don't grab for our lot first. Comb honey will always be a risky article. It will be damaged if kept over a year; not so with machine extracted honey. And if ever an overstocking of the market takes place it will be with the former and not with the latter.

Cincinnati, O. CHAS. K. MUTH.

THE BEE AS A SCAVENGER.—A mouse found its way into the hive of one of our amateur bee men, not long since, and the intruder was found dead, and completely imbedded in wax. The mouse, having a sweet tooth, crept into the hive to steal honey, but unfortunately aroused the inmates, and before he could find his way out again, was stung to death. By-and-by decomposition set in, and Mr. Mousey began to disseminate a bad smell, which bees cannot tolerate; but finding it impossible to hustle him over the ramparts, as they do other nuisances, they went energetically to work and sealed him up in wax, hermetically sealed him, in fact, so that not the slightest odor escaped, to make the hive unpleasant for the high-toned, extremely neat and cleanly inhabitants.—*Schoharie Republican.*

☞ Mrs. Willis D. Bailey is hereby informed that her letter is received, but as she gave no Post Office, County or State, it is impossible to comply with her request, till she furnishes these requisites.

SALEM, ILL.—March 13, '76.—I went into winter quarters with 130 colonies, well supplied with honey. Have lost five from queenlessness, none by desease.

Bees very lively but have consumed a vast amount of honey, in consequence of the warm winter. Am feeding Rye meal which they "go for" lively. Have noticed them bringing in polen. An examination shows that they are making a fine start in breeding.

Of honey resources, we have in the spring, soft maple and elm, followed by fruit bloom, and hard maple, then white clover, which, though blooming abundantly, sometimes fails to afford honey. Also some black and yellow locust. Then fall flowers, smart weed, spanish needle and some buckwheat. L. MCCOLM.

Notes & Queries.

CONDUCTED BY CH. DADANT.

Which will be the most profitable way to use the comb foundation in my surplus honey frames? Should I fill the entire frames with foundation, or use them only in strips; and if in strips, how deep must these be, in order to induce the bees to begin to work readily and to build the combs straight within the frames? My frames are 5½ inches long, 4½ inches deep, and 1¾ inches wide, inside measure. My surplus honey is nearly all from white clover, which I put up in shape and manner probably unexcelled, and furnish it to home customers in desirable quantities, at 35 cents per pound, net, ready sale. The frames are returned to me when empty, and will last many years.

Stark Co., Ohio. HENRY CRIST.

ANSWER:—No doubt comb foundation will greatly help the bees, and secure straight combs. To incite bees to work readily in the surplus frames, fill the frames with foundation, or at least, have a part of the foundation descending as low as to touch the bottom bar of the frame, cutting the foundation diagonally.

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1. What honey-producing plant will supply that lack occurring about June 1? If we can find good forage *then*, we shall have as good a place for bees as any in the West.

2. What is your experience in raising Melilot clover? When does it blossom?

3. When does Alsike clover blossom?

4. When does Chinese mustard blossom?

5. Where can I purchase these seeds, and at what price? H. S. HEATH.

ANSWER:—1. White clover, alsike, mellot, catnip, all of the large tribe of mints, linden, sumac, anise, borage, red raspberry, cucumber, melon, sun-flower, etc.

2. Melilot is one of the best plants for bees, and blossoms from June till October. 3. In June.

4. See page 33 of our February number.

5. Consult our advertising pages.

Among honey-producing plants I have not seen any account of HEMP. I had a few stalks growing in my yard; as soon as it began to bloom, the bees were on it from light till dark. P. MCBRIDE.

Keokuk County, Iowa.

ANSWER:—Bees find pollen in large quantity on hemp, but, we think, no honey.

Wishing to Italianize my black and hybred bees, I would like to know the best method. Is it to buy a tested queen and raise others, or to get dollar queens in the spring and introduce into hives early? Will two out of three dollar queens be pure? H. HAINES.

ANSWER:—It would be well to buy dollar queens for all your hives if you could get these queens from a reliable bee-keeper, whose apiary is well stocked with pure bees, and surrounded with neighbors having pure Italian bees. No doubt honest bee-keepers are numerous, but the other conditions are rarely found, and to buy these dollar queens is something like gambling, yet they are very good to raise drones, at least.

On what terms are bees rented, when taken in the spring? STEPHEN W. HALL.

ANSWER:—We give one-fifth of the honey and one-half of the natural swarms to the owners of the farms where we put our bees, and attend to them ourselves. If the farmer could take care of them we would give him one-half of both increase and honey. S.

Will you please by the JOURNAL inform me how to make "bee-quilts," so frequently mentioned therein. Do they any more than cover the top of the frames, taking up only the place the honey board does in a Langstroth hive? How thick are they, and of what material should they be made? Are they used only as winter covering? Is it any advantage to give bees rye flour when there is a warm time for several days or a week at a time, when the bees are on their summer stands, and are out flying about? Can the extractor be used early in the summer? If so, in what should the extracted honey be kept, and at what temperature should it be kept? Will dampness affect it? Can the frames for surplus honey be one-half the length of those in the lower part of the hive?

A SUBSCRIBER.

ANSWER:—Bee-quilts are made of two pieces of cotton cloth as large as the top of any hive, with several thicknesses of cotton batting between them—some use more, some less. Some use them all the time,—winter, fall, and spring,—taking them off only in summer, when surplus boxes are put on. Give rye flour to the bees whenever they will take it. The extractor can be used in cold weather by keeping comb containing the honey to be extracted, in a warm room twenty-four hours. Dampness does not affect honey

kept in tight barrels, kegs, or cans. Wax all wooden vessels in which honey is to be kept. The frames for surplus honey are often made half the size and depth of those used in the lower part of the hive.

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1. In making artificial swarms, would it not be better to give the queenless part a queen, or a queen cell immediately, instead of waiting for them to rear one?

2. Would it not prevent after-swarming to destroy queen cells, begun before the division?

3. Will bees produce as much extra honey in an under-hive as they will in boxes on top. A. A. STETSON.

ANSWER:—1. Yes; if a queen cell, give it the next day.

2. Yes. 3. No.

I put my bees, 19 colonies, into winter quarters on Nov. 15, in a house built on purpose. Thermometer stands at 42 deg. never going below 40. I notice a constant humming in a number of hives, so that I fear there is something wrong. They are Thomas' Patent Hive. I made a frame to fit the top of the hive, with canvas on the bottom, and filled each frame one inch in depth with wheat bran.

Quebec. JOHN EDMOND,

ANSWER:—Probably the top of your hives are fitting too closely, and consequently the inside too warm; your cellar is at the suitable temperature.

By what process can I tell the age of a queen? I see it recommended to destroy queens three years old. What think you of it? JOHN W. BAYLOR.

ANSWER:—Generally, old queens can be detected by their appearance. Yet no one can tell exactly the age of a queen, without having kept a record of her birth. The piolificness of a good queen decreasing after her third year, it is a good practice to replace her after she attains that age.

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1. Should the inside of a movable comb hive be planed smooth?

2. What height and length should the entrance holes to hives be?

3. Which is best: top or side surplus boxes?

4. What depth of frame will give the most top box-honey, without regard to wintering?

5. Is the *lophanthus anisatus* a valuable honey producing plant?

Pettit, Ind. JOHN JONES.

ANSWER:—1. It is better to do so.

2. The whole length of front, but so constructed as to be made smaller at will.

3. Top boxes, with small frames at sides. 4. Eight inches. 5. In some localities.

I have a hive that has been queenless for two or three months. About ten days ago, eggs were deposited in a small piece of drone comb which the bees proceeded to nourish, and they are now sealed over, and I think will hatch all right. I examined on Feb. 21st. There are no other eggs in the hive. Query: Where did these eggs come from? If from a fertile worker, why not more eggs, and should they be from a fertile worker, could they be relied on for fertilizing queens, if I raise them now? J. M. W.

ANSWER:—No doubt these eggs were laid by a fertile worker. Never have we seen the eggs of fertile workers to be of account to raise drones, they are so few, yet we think their drones as good as any.

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1. If you were to use the Langstroth hive, and cultivate the common black bee only, and not use the extractor, would you use eight or ten frames—in the brood chamber?

2. How many colonies of bees can be kept in one place profitably, if the locality is a *fair* one for bees?

3. Why does the color of the Italian Bees effect their habits of industry, or why are the dark colored ones superior to the *high colored ones*? If dark colored ones are superior, why are not the black bees superior to either? D. W. F.

ANSWER:—1. Ten frames would be preferable; but one who keeps black bees only, and does not use the extractor, is wasting valuable time.

2. It would be difficult to overstock a good location. We could not venture to give the *exact* number, without knowing more about the location.

3. The *color* is not every thing about Italian bees. They are a different race from the blacks,—as much so as the Berkshire hog is different from the old style "prairie rooters." The Italians are a superior race.

Is there any chemical process for bleaching wax? If so, please give directions. E. D. CLARK.

ANSWER.—We do not know the most recent method of bleaching wax. A few years ago *the modus operandi* was to have the wax put in the shape of very thin sheets; to dip these in water containing muriatic acid, and to finish the bleaching by submitting the wax to the action of the dew for several days.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, MAY, 1876. No. 5.

Comb Foundation.

Take a piece of empty honey comb and cut off all the cells, until nothing is left but the division wall of wax between the two opposite sets of cells, and you have a comb foundation. The latest production, however, consists not merely of the dividing wall, but also a slight depth of the cell-walls themselves, on each side, and these cell-walls, although slight in depth, may be of such thickness as to contain enough wax, so that the bees may work out or prolong the cells to their full depth without any additional material.

These comb foundations are given to the bees in their brood chamber, enough being put in a frame to fill it, in whole or in part, perhaps only a narrow strip being used for the bees to start upon. They are also used for surplus honey, enough being given to fill the boxes, or merely enough to give the bees a start. The object is to save the time of the bees in secreting the wax, as also, the honey used in its production. Another object is to secure all straight, worker comb, and still another to hasten the commencement of work in boxes when the bees are loth to enter them.

Thus much by way of answer to those who are asking, "What is comb foundation and what is it for?"

Much interest attaches to this matter, and we invite the fullest information from all. If you know anything in favor of the use of artificial comb foundation, tell us all you know about it. If you know anything against it, tell it. If you don't know anything about it, but have some question to ask, ask it. There are a hundred questions of interest that will suggest themselves, and we hope those of our readers, who have had experience in the matter, will give us the full benefit of that experience.

The interesting article of Mr. Bingham in the present number, certainly does not speak very favorably of the use of comb foundation. Is his position correct? We wait for all the light we can get.

Mr. Perrine claims to have entire control of the manufacture, having bought the patent, and Mr. A. J. King announces that in spite of Mr. Perrine's claims, he will make and sell machines for the production of comb foundation, so that each one may make his own. The price at which these machines will be furnished is not given; and whether the right to manufacture the machines is open to the public, we cannot quite make out, but suppose not, as mention is made of having patented four years ago, "a *machine* (not the *product* of the machine) for making the base of the edges of worker combs."

To those who desire to increase the number of combs in the brood chamber, there can be no question but that comb foundations will be very advantageous, providing the cost is not too great. At what price it will be profitable to use them, depends somewhat upon circumstances. As factors in the problem, will come in the number of pounds of honey needed for the production of a pound of wax, the price that can be obtained for honey, and the value of the *time* of the bees needed to secrete and work the wax. The number of pounds of honey needed to make a pound of wax has been variously estimated at from 15 to 25. Whatever the number of pounds, the higher the price of honey, the more valuable will the wax be, and the higher the price that can be afforded for a pound of foundation. The value of the bees' time in secreting the wax will vary. If a great rush of honey takes place, as there sometimes happens in bass-wood harvest, when for a short time, there is more honey

than all the bees can secure, the cost of combs made by the bees will be much greater than if made during a moderate and long continued harvest, when three-fourths of the bees can secure all the honey that is yielded.

As to whether the foundations are valuable for surplus boxes, opinions differ widely. We shall be glad of information from any one who has tried it. Is there any difference in the *taste* of two pieces of comb-honey, made at the same time, from the same flowers, one stored in comb made entirely by the bees, and the other stored in comb, for which the artificial foundation was furnished? If not, then the foundations will be very desirable for surplus honey; if the taste is injured by the foundations, then they will not be received with favor for that purpose. We hope the present season may throw much light upon this topic.

MANUAL OF BEE-KEEPING.—Prof. A. J. Cook, of Lansing, Mich., is publishing a "MANUAL for Bee-keepers." It is fully illustrated and treats of everything relating to the apiary. It is the product of many years' experience, observation, research and experiment by the author, and will obtain a very rapid sale. We have long felt the need of such a work, brought down to the present time, embodying all the useful hints and directions which cost many a bee-keeper a hundred times the price of this manual to find out by experience. The name of the author is a sufficient guarantee of the intrinsic *worth* of this Manual. For sale at this office; price 30 cents, postpaid.

☞ Dealers in apiarian supplies are invited to send us their *new* price lists. We have devoted a place to them in this office where they can be consulted by our many visitors.

☞ As it is a very pleasant thing for "bee-men" to see how each other appears, we have arranged to put up on the wall of this office a large Photo holder. All are invited to send their "photos" (or tin types if they have no photographs) to be put into it. When you can, write your name and address at the bottom or on the back thereof.

☞ A "beginner" asks:

"Will an Italian queen fertilized by a Black drone produce Italian drones; so that an Italian queen fertilized by them will produce pure Italian workers?"

Although a very few may think that impure fertilization gives a slight taint of impure blood to the drone progeny, the great majority of bee-keepers subscribe to the doctrine of Dzierzon, that the drone progeny of an Italian queen will be pure Italian, no matter how the queen was fertilized; and a black queen fertilized by an Italian drone will produce pure black drones. In other words the drones will always be of the same blood as the mother and not at all affected by her fertilization.

☞ Mr. N. Perkins, of Minn., says: "In the January, 1872, issue of the Bee-Keepers' *Magazine*, in an article on honey plants, on pages 2 and 3, the statement is made that *Lophanthus anisatus* flowers incessantly from May until frost, and that one acre would be ample pasturage for 100 swarms of bees! Can you tell me anything about it?"

Some that have tried this plant claim that it is a *fraud!* Let us hear from all who have tried it, so that bee-keepers may know the truth about the matter.

☞ The value of a paper devoted to the interests of a class, is derived from the fact that it is the medium for the interchange of views and experiences affecting that specialty. The AMERICAN BEE JOURNAL is that medium for bee-keepers and it invites correspondence, items of experiments and experiences from all parts of the world. We, therefore, say to all—write to us, giving any item of interest coming within your observation, and write *often*.

☞ In last month's JOURNAL we made a short criticism on Mr. Binghams' statement that "honey-comb is one thing, and beeswax another and very different thing." In this issue Mr. B. has an article starting out with something like a rejoinder, but in the course of the article he admits that "*chemically*, honey comb is the same as beeswax." This is all we claim, and take *no exception* to Mr. Bingham's views of "those features which give comb-honey its *peculiar* virtue."

Death of Adam Grimm.

He died at his home, Jefferson, Wisconsin, on the 10th inst., of congestion of the brain. His age was 52 years and 16 days. He leaves a wife, four daughters, and son.

Mr. Grimm was one of the trio of extensive and successful bee-keepers of this country, viz.: Capt. Hetherington, of New York; J. S. Harbison, of California, and Adam Grimm, of Wisconsin. He was also one of our pioneers in bee-culture, and rendered very effecient service to the pursuit by giving the result of his experiments and experiences in THE AMERICAN BEE JOURNAL, to which he has been a regular contributor many years, until his failing health compelled him to desist.

Adam Grimm was born in Germany. When a boy, attending school, he spent his leisure hours with his bees, watching their instincts and habits. He came to this country in 1849, and then devoted his time to bee-keeping, engaging in it extensively, and energetically pursued it as a business till his death. For the past year, he has been engaged in the Banking business, and was, at the time of his demise, cashier of the bank at Jefferson.

He was confined to his bed but five days. On account of failing health during the past year, he concluded to sell a part of his bees. He wintered 1,400 colonies in his cellar, with very small loss—all being now in good condition.

Gone! With all his faults and virtues —with all his hopes and fears, to the land which, figuratively speaking, is "flowing with milk and honey"—that "land of promise" beyond the river, where, "in the sweet by and by," we hope all our readers will meet him, with the good, the pure and the true, of all ages and climes!

J. S. COE, with his House Apiary, is on the Centennial grounds. The house contains 32 hives—all the places being filled. Of course, all the apiarists visiting the exhibition will give him a call. We expect to do so about the time of the National meeting, which it is now arranged to have convene on October 25th, as we are informed by President G. W. Zimmerman.

PROF. TICE, of the U. S. Weather Bureau, predicts cold and wet weather for May.

IN our last issue, while commenting upon the *general* remark of a correspondent, that the bee journals called for no report last fall, and in order to specifically *locate* the CENSURE, we said: "there is but *one* BEE JOURNAL on this continent, and that the AMERICAN." *Moon's Bee World* says it wants its share of the censure; to this we cannot object, as the *World* comes in as a bee-paper or journal, under the general expression,—as do the *Bee-keepers' Magazine*, and *Gleanings in Bee Culture*—though none of them claim BEE JOURNAL as a name! All are magazines, and all are gleanings in bee culture, but these names are each appropriate, as such, only to *one*. It was *not* a conceited mis-statement, Bro. Moon, as you suggest—only your misconception of our meaning.

THE Washington (Iowa) *Press*, of March 30th, says: "That talk about Mrs. Tupper's insanity is generally held to be too thin. Some time ago she sold her Brighton farm, of about 135 acres, to Rev. H. H. Kellogg, of Guthrie county, for $8.000, a whale of a price. There had been two mortgages on it, one for $1,000 and one for $1,100. The former had been released, and on the 13 instant she was sane enough to write to parties here, and released the $1,100 encumbrance. She seems to have *pecunia*."

Mr. ELLSWORTH, of Illinois, states "the unfortunate lady, whose mental and moral machinery has no balance wheel," has fleeced him to the tune of $80.

☞ Our readers will remember D. H. OGDEN, of Worcester, Mass., whose items have often appeared in this JOURNAL. We learn with regret that he has a severe attack of the rheumatism, a disease that has followed him relentlessly ever since he was eight years of age, stiffening his joints and making him helpless. His bees are not cared for, as he has not the wherewith to hire any one to attend to them. He expected to have made something from them this season to support himself, but this fresh attack has not only cut off that hope, but permits *want* to stare in his face. The charitable among us may *here* find a chance to "lay up treasures in heaven," by helping a brother in distress.

NEW CUTS.—The Chromo-Lithographic plates, advertised in the November number are excellent. We have just had a new Italian Queen cut, engraved from them, which is correct in every particular. Here it is:

We shall also engrave others from these plates, for THE AMERICAN BEE JOURNAL.

Advertisers who may wish to illustrate their advertisements with them, can do so *free of charge*, except for the space they occupy.

To those wishing them to illustrate catalogues, price lists, or stationery, we will send an electrotype of the queen cut, postpaid, for $1.00. Or we will print such for them, illustrated with any cuts we have, at rates as low as any others will print them *without* the cuts.

Comb Foundation.

On another page a request is made for the particulars of the "Claim" for Comb Foundation. Mr. Perrine has furnished us the following:

The patent is No. 32,258, and was issued to Samuel Wagner, of York, Pa., and dated May 7th, 1861. It runs for 17 years, and cannot be renewed, as the law now stands. The patent runs out on May 7th, 1878—2 years hence. Its title is "Improved Artificial Honey Comb," and it is described as follows: "The substitute is designed be be artificially and suitably formed upon both sides or faces; any suitable material which is susceptible of receiving the desired and necessary configuration." The *claim* reads thus: "As a new article of manufacture, an artificial substitute for the central division of comb built by bees, which presents to them, on both sides thereof, guides for the construction or continuation for the sides of the comb cells, whether the same is constructed with or without the whole, or any portion of the sides of the cells."

I want to be fully understood in the matter of prices. I have put them where I thought I could make a profit. I may put them lower or higher. I have yet to know of any one making a profit at any price. John Long (*alias* Hoge) put the price of yellow and white at $1.00 per lb. White beeswax is worth 55c. to 60c. per lb., and he paid Mr. Weiss, 35c. per lb. for running it, (and he, the inventor, with his rollers, only made 40 to 50 lbs. per week, working 16 to 18 hours per day) which gave Hoge a profit, if he used beeswax, of 5 to 10 cents per lb. for packing box and labor of putting it up, etc., etc. But he made a profit by keeping the money sent to him, and not filling the orders. A number have complained to me of this. One man sent $100, and received only 28 lbs., and can get no answer to his letters to Hoge. So far as Mr. A. I. Root is concerned, he has always been too generous for his own interest, as his friends all know. When he had his machine completed, he announced that he would furnish the Foundation at 75 cents per lb. He has always tried to *give* something for nothing, instead of to *get* something for nothing, as Hoge did. Mr. Root must certainly have seen, before he sent me the machine, that he could not make a profit on yellow wax at 75 cents per lb. He stated to me that he had made only about 30 lbs. in the whole month he had the machine, and I have had the machine nearly that length of time, and up to the present writing, have not made *one pound* as I wanted to have it, but have melted up all attempts so far. I did not buy the patent, nor machine, to make money selling Foundation. I have use for it in my business; but if any one wants it, at a price for which I can afford to make it, all right; I will do the best I can for them, and will advise them when I make prices lower or higher. I had use for the patent on the Comb Foundation, and the machine for making it, and paid for them instead of pirating them; and if any one wants a part of it now, he must not pirate it, but do as I did.

C. O. PERRINE.

Voices from Among the Hives.

CRAWFORD CO., MO., April 15, 1876—"Bees have wintered well here, and are nearly ready for dividing. We have none but the native stock. Money is too hard to get to Italianize now."

J. HARMAN, Sen.

DELHI, MICH., April 7, 1876.—"My 50 stands of bees have wintered in fine condition. I purposely wintered one without a queen; all right so far. I have made a hive which I call the Centennial. Bees winter in it better than any other I have. Fed once in every five days during the winter." JOHN L. DAVIS.

PLUMAS CO., CAL., April 13, 1876.—"I commenced bee-keeping two years ago with two hives. Am wintering twenty, and could have had twice that number if I had taken proper care of them. Bees do well here; no trouble in wintering, and we are free from moths. Some of my hives yielded 150 lbs. comb honey to the hive last season. I intend to make bee-keeping a business, as soon as I can get properly fixed for it, and of course, shall need the assistance of your valuable JOURNAL. E. CULVER.

ROCHESTER, ILL., April 1.—"April No. AMERICAN BEE JOURNAL, is at hand with a cheery face, and much improved in appearance. Flooded cellar compelled removal of bees to "*stands*" much earlier than I intended. In good condition. Had consumed a very small amount of stores. Have 12 colonies in two story hives, (the upper portable;) size of brood chamber 19½x18; frame 18x7¼. I am but a beginner in apiculture, and had it not been that I had counsel from experience, I should most likely have thrown up the sponge in confusion and dismay ere this, as many apiarists rush into print to gratify their selfishness and malice, instead of on business."

W. W. CURNUTT.

SHARPSBURG, TEXAS.—April 7, 1876.—"BEE JOURNAL comes regularly. I have never lost a number. Bees doing well. Though everybody was not made for a bee-keeper, any more than for other occupations, it is a business in which "pluck" will tell." I see that some of your correspondents are trying to learn the bees to stay out all the time, *i. e.*, winter out. How can this be done, when the bees of one winter, never see another. I have never been able to learn bees anything, nor learn myself, the half they know about themselves. JOHN W. BAYLOR.

CALDWELL CO., KY.—April 9, 1876.—"My husband has 46 colonies, all in Langstroth hives, and working finely at present. We take great interest and pleasure in bees, and hope for a successful and prosperous year for bees, honey, and the 'old reliable AMERICAN BEE JOURNAL.'"
MRS. V. M. LARKINS.

PUTNAM CO., ILL.—"I started in the spring of 1874 with 170 stands—mostly hybrids—in good working order. In the following fall I had 285 stands and sold $500 worth of honey. The winter of 1874 and 1875 proved to be the hardest ever known in this section on bees. In the spring of 1875 I had but eighty stands left, and they in an enfeebled condition. The season of 1875 was a very short one for making honey, and I did not sell but $100 worth of honey, but I came out in the fall with 176 stands in good order, having lost none the past winter, and they are now in splendid condition, full of life and activity." OTTO HALBLEIB.

ASPINWALL, NEB.—April 8, 1876.—'I have an excellent bee range here. I wintered my bees in an open shed, low and tight on north and west, open on south-east, and all have come through safe and in good condition. I have ready sale for all the honey I have or can get, in nice, clean, smoothly finished honey-boxes weighing at from four to six lb, at prices so far above extracted honey that I don't want extractors." J. S. MINICK.

DODGE CO. WIS.—April 17, 1876.—"I have two queens fertilized this spring, March 4th and 22d. My stocks have consumed thrice as much as last winter and on an average are weaker than they were then. I have lost one out of 24 by starvation—our cave was not warm enough toward spring." JOHN H. GUENTHER.

NATCHEZ, MISS., April 3, 1876.—"Our winter has been a very open and mild one. Many fruit trees blossomed several weeks earlier than usual, and many trees have been killed by late cold weather, so that the prospect is a poor one for a good honey season. My bees have wintered well, which in fact they have never yet failed to do, and are preparing for swarming, which begins here about the 10th of April every year." JNO. R. BLEDSOE.

CUYAHOGA CO., O., April 14, 1876.—"I have kept bees forty-seven years, and taking all things into consideration, have been moderately successful. I have one hive in which the bees or comb have not been changed for thirty-seven years, and they are now as good as any I have. I have not been very successful with the Italians as yet, but shall try them a while longer. They don't seem to be very long-lived, and will not stand the cold equal to the blacks." C. L. YOUNG.

ST. GEORGE, KANSAS, March 6, 1876—"We have had a warm winter. I put 48 colonies in the cellar in January. Took them out a few days since in good condition with the exception of two queenless colonies. I lost several late queens last fall, and think some are now queenless. I hope for a good season this year to make up for my losses during the past two years. Our honey plants are: willow, small sorrel, wild grapes, fruit bloom, sumac, linn, Indian currant, several varieties of golden rod, and buckwheat."
JACOB EMMONS.

BREAKABEEN, N. Y., March 10, 1876.—"Last spring I lost 7 out of the 29 stocks I put in my cellar. It was damp. I got 700 lbs. honey and 17 swarms last season. I intend to have 70 colonies next season, but shall not put them in the cellar again, as I can winter them better out doors, or in my new apiary house, which I built last fall. It is 12x14 feet." WM. B. BURGET.

BOSCOBEL, WIS., April 10, 1876.—"Last November I put 53 stocks into my apiary house; 49 were Italians, and 4 hybrids. I now have 48 in good condition. The winter here was rather warm for wintering inside. March was a severe month, the thermometer marking once, 9 degrees below zero. April commenced quite cold but on the 7th the weather moderated so suddenly that I ventured to set my bees on their summer stands. They have been working on rye meal splendidly, and to-day they gathered pollen from the bluff flowers, which make their appearance exceedingly early. One year ago I had 27 stocks. I obtained 2,939 lbs. of honey, mostly extracted from them; I sold nearly all of it in our home market. I think there is no locality in the State that will surpass the Wisconsin valley for early and late forage. Plum and wild crab blossoms are abundant. White clover was quite plenty last year. Bass-wood is very plenty and lasts two weeks. Buckwheat is raised in considerable quantities. The sand prairie bordering the river is covered with wild balm, and produces better honey than buckwheat, and lasts till the third or fourth frost comes. I am not a professor or an expert, but intend to give the business my whole attention, as I am quite sure there is a little money that will 'pan out.'" EDWIN PIKE.

FULTON, ILLS., April 17, 1876.—"Bees have wintered well in this section, so far as I have heard. Some of mine have double the number of bees they had when I put them into winter quarters."

R. R. MURPHY.

EDGEFIELD JUNCTION, TENN.—April 6, 1876.—"The winter has been disastrous to all the early blooming trees and shrubs. Fruit, except apples, is all killed. Strawberries and blackberries may produce a crop. Bees are, of course, badly affected by the loss of all the early bloom. No honey has been gathered, nor is likely to be till clover, except what may come from the apple bloom and poplar."

T. F. BINGHAM.

CLAY CO., IOWA.—April 14, 1876.—"This morning find the ground is covered with a six inch snow. I dread the loss of bees that will be occasioned by their alighting on the snow. I have 22 stands; kept them in cellar; lost four by being queenless when I put them away. I am completely isolated in the business,—no bees in the county but mine."

W. W. MOORE.

SARATOGA SPRINGS, N. Y.—April 16, 1876—"About the 1st of last March I sent $1.50 to John Long, of New York, for one pound of bleached, or unbleached wax comb foundation, to be sent immediately. Mr. Long received my money order, but never sent any combs. According to the price of comb foundation now, my bees can make comb cheaper than I can buy it."

S. RUGGLES.

CUMBERLAND CO., MAINE, Feb. 4, 1876—"I took 380 lbs. of surplus from one hive last season, all in glass boxes, which I sold at 33 cents per lb. I fed the stock early in spring to encourage early breeding, and kept it strong all through the season."

MRS. L. E. COTTON.

LEAMAN PLACE, PA., April 18, 1876.—"I wintered 32 colonies on their summer stands, and now they are all good and strong. The only protection I gave them was quilts on the top of frames and cap over the hives. The prospects are excellent for a good honey season."

ELIAS HERSHEY.

PALO ALTO CO., IOWA, April 18, 1876.—"In this new county, bees have to depend almost entirely upon wild flowers. There is no clover here, but we have some basswood and a great profusion of wild prairie flowers. I put five swarms of Italians in my cellar about the middle of last November, and never disturbed them until about the first of April. They came out in fine condition, well stocked with bees and honey. I intend to increase them to about fifteen swarms this summer, and get a good supply of honey besides."

T. W. HARRISON.

HAMILTON, ONT., April 20, 1876.—"I had my bees all out of the cellar for a fly last week. I have them in a large, dry place, full size of my show-room. I never saw bees in such fine order as they are. Have increased almost double in number since I put them in last fall. I returned them same night, to remain until about 5th of May, when I intend to take them out of their long-resting temperature of just 40 degrees, from which I never found it to vary a single degree for almost six months. They seem to sleep all the time, and have been so quiet, that when I had men of forty years' experience look at them, some pronounced them all dead. A month ago, and in February, I thought so myself, as thumping on the hive would not disturb them in the least, but to our surprise, they just boiled over with bees when I removed the blanket. The queens are all laying and plenty of brood. This is my experience on 40° degrees of temperature, and I hope others, who can do as I have done, will try this. Of course I admit I have an excellent place for my *dear pets*. As I love them so much, I would share my drawing room with them, did I think it better than where they spent the last six months."

W. G. WALTON.

MARSHALL CO., TENN., March 20, 1876.—"DEAR SIR: We are delighted with the JOURNAL; indeed regard it as indispensible to the success of all apiarists. I and my eldest daughter are partners in this most delightful business. We had last spring, forty-four colonies. We extracted two thousand pounds, mostly linn honey of a superior quality, which netted ten cents per pound, and increased to sixty-five colonies. The fruit and poplar blooms were all destroyed last spring by the late frosts, and our bees barely made a support till the linden came in, which was unusually rich and abundant. We use the Langstroth hive. We are very anxious to try comb-honey this year. Our bees have wintered very well on their summer stands; have lost but two. The winter has, until the past few days, been remarkably mild; have had some flowers almost all winter and most of the fruit is in bloom. Only a *few days* since, it seemed as if spring had come in good earnest, and farmers were preparing to plant; but alas, how vain are the hopes of man! Yesterday all was cheering and beautiful; flowers were blossoming, birds were warbling, and *bees* were humming, as if welcoming the lovely spring weather; to-day how changed. Instead of the cheering sunshine, flowers and bird-song, we behold mother earth shrouded in her winter robes, and we hear the howling of a *cold* north-west wind, speaking in language too plain: 'No honey now for the bees; winter has came at last.'"

W. J. HAYES.

Correspondence.

For The American Bee Journal

Artificial Swarms.

BY A. G. HILL, OF KENDALLVILLE, IND., THE INVENTOR OF THE GAS-PIPE HONEY EXTRACTOR AND THE WINTER BEE-HIVE.

If we have only a few stocks of bees and wish to increase them as much as possible, it is very discouraging to wait for natural swarms, as bees will some seasons cluster out most of the time and not cast out a single swarm. Again, they will often swarm and leave you even after you have hived them once; besides, you waste a great deal of valuable time in watching them. From several year's experience in dividing, I find that artificial swarms work just as well as natural ones, if they are properly made, and it requires no more time to make such than it does to hive a natural one after it has clustered. I have known bees frequently to increase from one to seven good stocks in a season by natural swarming, and cannot see any reason why we cannot increase as much, or even more, artificially, with the aid of the movable frame and the extractor.

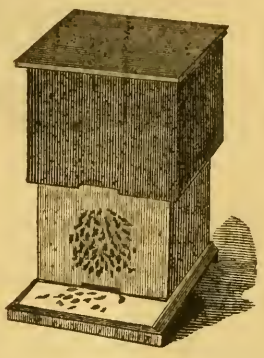
WHEN TO TAKE FIRST SWARM.

When bees swarm naturally, the hive must be crowded with bees, the combs must contain a numerous brood advancing from the egg to maturity, the bees must be obtaining honey either from flowers or artificial sources, and the weather warm and pleasant. The bee-keeper should always know that such is the case before he attempts the operation. Nothing is gained by dividing bees too early, or before they are ready, for we have frequently divided in the first days of July, and had them do better than those we divided in May and June, yet it is a great waste to let a stock stand a few days after it is in the proper condition. No definite rule can be given, hence every bee-keeper should study his own bee-pasturage and learn from experience, and use his own judgment.

HOW TO TAKE THE FIRST SWARM.

No. 1 represents a stock of bees ready to divide. Now, if it should swarm, the old queen would leave, and most of the bees—cluster on a tree and be hived in the new hive, leaving the old stock with only bees enough to feed the brood and to keep it from chilling. By this arrangement, we have all the working bees in the new hive with the old queen, where they have plenty of room to build comb, and the queen is ready to deposit an egg in each cell as fast as completed, while the old hive is full of brood with bees enough to take care of it and rear the young queens, and by the time this brood hatches out and becomes old enough to work, the young queens are ready to lay. So if we wish to reap the best results, we

OLD STOCK NO. 1.

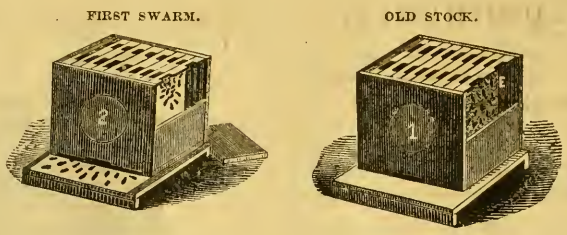


O

must divide No. 1 as near natural swarming as possible.

HOW TO FIND THE QUEEN.

This is the most difficult part of the work for a beginner, yet a little practice makes it very easy. We often wonder after we have found five or six black queens (in one hour) and introduced as many Italians, how we could look three or four hours for the first queen we ever saw without finding her. Use a veil, and do not smoke the bees unless they are very cross. Open the hive without the least jar—take out the first comb, look it over quickly, and set it in an empty hive close by—proceed in this manner until you find the queen or have removed all the combs—then look the bees over carefully that are left on the inside of the hive, keeping them running from one side to the other by stirring them with a quill or breathing on them. A queen will often sit still right before your eyes without your seeing her, but will be seen as soon as she moves. So you should always keep the bees moving that you are looking at, by breathing upon them. Proceed to look the combs over the second time—you need not hurry, as the bees will hang on the combs in clusters or bunches, and the queen will be hid among them. The object of hurrying the first time through was to see the queen before she could hide. Hold the combs perpendicularly before your face, breathe on the bees and make them run around on the opposite side—then turn the combs and drive them again. Set the combs, as fast as you are through with them, in the old hive just as they were, and if you have not found the queen yet, close up the hive and wait an hour, and try again. Do not think you will injure the bees by handling them so much, for the practice will be of more value to you than the injury to the bees, as they will work just as well half an hour afterwards.



Remove No. 1 three or four feet from *O.* to *B.*, and place No. 2 on the old stand at *O.*

After you have found the queen place the comb that she is on, if it is a straight one, in the centre of the new hive, No. 2 at *d*, and fill up on each side of this comb with empty frames—close up the hive and raise up the front side by placing a couple of blocks under the corners; then take three or four combs from No. 1 (one at a time) and shake or brush the bees in front of No. 2, and make them go in—return the combs to No. 1, putting in an empty frame bar at *E* to supply the place of the comb left in No. 2—which was left there contrary to the natural laws of swarming—to prevent the new swarm from going off.

HOW TO PLACE THE STANDS.

Place No. 2 on the old stand at *O*, where No. 1 set before the division, and place No. 1 three or four feet from *O* at *B*, so that most of the working bees will enter No. 2. You have them now the same as natural swarming. No. 1 is weak in bees, but has most of the brood. No. 2 is an empty hive containing the old queen and a strong swarm of working bees. No. 2 should have two-thirds of the bees, or more, and if it does not become strong enough in an hour after you have divided them, No. 1 should be moved farther away from *O* to *C*, and if No. 1 should then become so weak that there would be danger of the brood chilling or the young larvæ starving for the want of bees to feed them, it should be moved back to *B*, and No. 2 should be moved to *A*, but you should never change the hives, setting the weak in the place of the strong, as it will be of no benefit. If your stocks are close together, the entrance of the bees may be regulated by setting short boards up in front of the strong one, instead of moving it.

WHEN TO TAKE A SECOND SWARM.

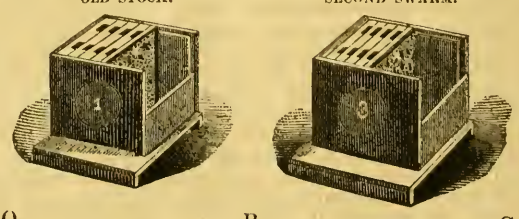
A stock will generally rear from five to twenty queens, and in about ten days the queens in No. 1 will commence hatching. This is the time, should nature take its course, that we should expect our second and third swarms. But we find from experience that, should No. 1 swarm so often there would be so few bees left to protect the eight combs that the moths would be very apt to destroy them, while the swarms would be so small in such large hives that they would build combs very slowly and be very apt to make them crooked. We may obviate these difficulties by dividing the bees and combs equally, and if we contract the size of the hive according to the strength of the bees, they will keep out the moths as well as strong stocks will in large hives.

HOW TO TAKE THE SECOND SWARM.

On the ninth day take four combs with the bees on them, from No. 1, and place them in an empty hive, No. 3, (being careful to put combs in each hive that have queen cells on them)—make a couple of strips $\frac{3}{8}$x$\frac{3}{8}$, and as long as the top bars of the frames—tack on these strips one or two thicknesses of cloth cut just the size of the inside of your hive—hang this curtain *X* against the combs. You will find this much more convenient than a division board, as it holds the heat better—the bees do not fasten it, and when not in use it can be rolled up on the strap and laid away.

HOW TO PLACE THE STANDS.

Since *B* is the stand formerly occupied by No. 1, and we wish to divide the bees, we must place No. 1 between *O* and *B*,



and No. 3 between *B* and *C*, both equally distant from *B*, and after you have watched them a few minutes—if the bees enter No. 1 more than No. 3 you should move No. 1 a little towards *C* and No. 3 towards *B*, and continue moving them according to this principle until the bees enter each hive equally.

HOW TO TAKE THIRD AND FOURTH SWARMS.

No. 1 and No. 3 may be divided again on the next day, making third and fourth swarms. The operation is the same as taking a second swarm, except we put only two combs in each hive.

When bees are divided thus small, they must have constant care, to insure success. As soon as the young queens commence laying, these two combs (allowing one-third for stores) will yield a brood of ten thousand bees every twenty-one days. But these small colonies were formed ten or twelve days before the young queens are ready to lay. During this time the brood all hatches out, leaving the combs empty, and if honey is plenty, the bees are very apt to fill the two combs with honey, leaving no place for the queen to deposit her eggs. If left in this condition a short time, your swarms would be failures. Whenever the combs are in this condition, the honey should be extracted from them, and you should continue to do so every two or three days, if the bees fill them. Again, if the weather should be cold and rainy, the bees will not breed, for want of proper food. In this case, they should be stimulated to breed by feeding, every evening, a little sugar syrup. As soon as the brood begins to hatch in these stocks, they increase very fast. We now slip an empty frame down between the two combs, so that the bees can retain the heat better and build comb faster, than they could on the outside. Sometimes these weak stocks will fill a frame in three days; then again, it will require a week. They should be watched very closely at this time, and as fast as a frame is filled, an empty one should be given them, and continue this (giving one frame at a time) until the hive is filled. If any of these stocks should lose its queen while she was out to meet the drone, which is often the case, you should know it at once, and unite it with one more fortunate, and not let it stand until the moths destroy the combs.

HOW TO TAKE THE FIFTH SWARM.

When first swarms come early, and the weather is good, they will often fill the hive in a week or two, and swarm. If our bees come through the winter strong, so that we can divide them early, we may also divide the first swarm if it fills the hive, before it becomes too late in the season; and since No. 2, the first swarm, is now in the same condition that No. 1 was when the first swarm was taken—full of comb, brood, bees, and has the old queen—the operation for taking the fifth swarm will be the same as for the first, and need not be repeated here. If, however, the first swarm does not fill its hive soon enough to be divided, you may take four combs from it (No. 2), leaving five, and give one of them to each of the stocks, Nos. 1, 3, 4, and 5. (These numbers indicate the hives and not the swarms, as No. 5 contains the fourth swarm.) This will enable them to rear a brood of fifteen thousand bees, instead of ten thousand, every twenty-one days.

We do not generally get any surplus honey after dividing the bees so often. But if the season is good for breeding, so that we can make all of our weak stocks strong and we have a good yield of honey in the fall, we may get more surplus than if we had not divided but once—because we have six stocks to work in the boxes instead of two. This has frequently been the case during the past season. I increased one stock to five and they made 111 lbs surplus—another to four and they yielded 160 lbs—another to seven, they gave 120 lbs surplus. A gentleman, after letting his first swarm go off and had hived the second—sent for me to come and see to his bees. I found the old stock still contained a number of queen cells ready to hatch. I divided it into three stocks, giving each three combs. The four filled their hives and three of them swarmed in September and one of these filled a hive containing nine frames, twelve inches square, in seven days with comb brood and honey. I would say, for the benefit of the beginners in bee-keeping, that we can tell no more what a stock of bees will do in the coming season than how many bushels of oats we can raise on an acre. The former, depends on the bee-pasturage, culture and weather, the latter, on the soil, culture and weather. The weather is something we can not control, and is just as liable to make our bees a failure as it is our oats.

A CHIP FROM SWEET HOME.—In THE AMERCAN BEE JOURNAL, Vol. 12, pages 15 and 80, I described the sectional frame for surplus box-honey; how to fit the glass in nicely, troubled me. I now use glass 5x6, nail on each *end of box* two pieces, one on top and one on the bottom, which have just the length the section is wide, ¼ inch thick and 1¼ wide, these are rabbeted by a circular saw so as to let the glass slide in from one side—the ½ inch thin strip projects enough so that the glass cannot slide. D. D. PALMER.

Eliza, Mercer Co., Ill.

☞ Any numbers that fail to reach subscribers by fault of the mail, we are always glad to send again, on application.

For the American Bee Journal.

Wintering Bees.

I read with much interest the report of the Michigan Bee-keepers' Association. That noble band of brothers is still ahead of all other associations in the country. But as usual, their great burden is the wintering. I have always wintered my bees with entire success, in all sorts of winters, both cold and mild. The present winter has to this date been one of the mildest I ever saw. My bees are all right to-day—had a fine fly and cleansing out. Whether I could winter my bees with success in Michigan, I will not pretend to say; though I see from back numbers of the JOURNAL that a few have wintered their bees on their summer stands, in that State, with entire success. I believe in very little upward ventilation. The best plan I have ever found yet, is to remove the honey board and spread warm quilts over, after laying a few splints across the frames. If I were to winter say 20 stands in Michigan, I would do it on summer stands, as follows: 1st, I would by means of buildings or board fences, etc., break the force of the fierce winds on three sides east, north and west; 2d, I would in October overhaul them all, cut winter passages, and if over 30 lbs of honey, in a hive not less than 2,000 or over 2,500 cubic inches, I would remove one frame and place the others at equal distance in the hive and see that there is plenty empty cells about the brood nest. But should there be only about 25 lbs, I would leave all the frames in; 3d, I would lay three or four half inch splits across the frames, then spread a piece of blanket or woolen cloth over, large enough for the ends to project about an inch, so as to be held firmly down by the cover or cap, then stuff the cap with soft hay or straw and put it on. This makes a splendid absorbent of moisture, without a draught of air; 4th, I would have the bottom of the hive at least eight inches from the ground, and if the hive stood on legs, would place straw under it. The rear end of the hive should be raised about three inches higher than the front, so as to enable the bees to clear out dead bees on all warm days, and to carry off water. The hives should be well sheltered and kept perfectly dry, and if convenient, facing the south. The entrance should be regulated with the changes of the weather. I would not only regulate it to half an inch in the coldest spells, but would put a loose piece of wool in so as to prevent the cold draught. The bees would get plenty of fresh air through the loose wool.

If bees cannot be wintered safely on the above plan in the cold North, would it not pay to bring them South? I am glad to see by the same report that friend T. F. Bingham is now in the South with his bees, making the experiment. He will give us a good report in time. I would here make one suggestion to him: Had he not better keep them here until the white clover season is over, extract all the honey, put up for shipment as he extracts, and take them North in time for the linden bloom?

I have thought of going North with a car load of bees about the 15th of June, when the honey season here begins to fail, and return with them in October. I could start just after the last extracting with empty combs that would ship safe. But I would have to return with the hives full of winter stores, or feed on sugar syrup for winter. I do not know how this plan would work. I would risk it anyhow, were it not for the discouraging price of honey, especially extracted, by the barrel. I am not inclined to run for honey at that low price. If it is asked why move my bees so far, I answer there is no such linden and poplar wood here in Kentucky that can be reached by a railroad yet. Nothing but awfully bad mountain roads. The reckless Kentucky farmers have felled nearly all the linden and poplar in the blue grass regions, as if their life depended upon it.

I will close by asking the Northern beemen's opinion of the plan I have in view, of moving bees by rail, so far as Michigan, twice in a season. R. M. ARGO.

Lowell, Ky., Jan. 18, 1876.

For the American Bee Journal.

Bee-Keeping, No. 1.

MR. EDITOR:—Having been a constant reader of your valuable JOURNAL, almost from from its beginning, without having contributed anything to its columns, I will endeavor, in the future, to contribute a few items, from time to time, upon bee-keeping. I am not doing it for notoriety, but merely to exchange notes and observations with my bee-keeping brethren. I am not one of the old ones: I belong to that class called "small fishes," in bee-keeping. For comparison,—a tadpole among whales. Nevertheless, perhaps a few suggestions from the small-fry will greatly assist the older heads in remedying some of the present difficulties attending successful bee-keeping or management. The greatest difficulty at present is, in wintering. I shall state nothing but what I believe to be facts,—which have come under my own personal observation.

I read, in your last issue, the discussions at the recent Michigan Bee-keepers' Association, upon the subject of wintering, and as they are so very similar to those preceding, and contain so very little good, practical information, I think it would be just as well for my bee-keeping

friends to dispense with the subject entirely, at their meetings in the future, and publish the same from year to year, devoting their whole time to something else. No disrespect, gentlemen.

Ventilation in winter. It is difficult, sometmes, to determine, what the author means by ventilation,—whether of the hives, or of the repository in which the bees are wintered. Every hive containing bees, placed in a winter repository, should have more or less upward ventilation, in order to help preserve the combs from mould, and keep the stock in a dry and healthy condition. If it has not, the combs are apt to become so mouldy, and the bees so demoralized and disgusted with it, that they are almost sure to desert it the first warm day that comes, after being set out. The amount consumed should not be taken into consideration for a moment, because you have got to give them enough to eat, whether they have dysentery or constipation. In fact, I find that a stock badly diseased will sustain themselves much longer, if they can have access to some clean, pure comb-honey, uncandied. And I will add here, that in whatever part of the hive the cluster may be, the first of January, it should be the effort of the bee-keeper to keep them there until spring, without compelling them to shift to get at their stores, as this shifting is more or less the cause of disease. This can be done by placing pure comb-honey above them, where they can get it. I am speaking, of course, of a broad, shallow hive, as I suppose every bee-keeper knows, who knows anything, that that is about the only form of hive that can be depended upon for surplus. Although I believe that there are a few of the old veterans who still advocate dog-kennel hives, or side-surplus receptacles. So much for ventilation of hives.

VENTILATION OF WINTER REPOSITORIES.

Upon this depends the degree of success in wintering. A half-dozen stocks, placed in a winter repository, would probably go through all right without any ventilation, where one hundred would become foul and diseased. It makes but very little difference how it is ventilated, provided it is arranged so you can give enough, and exclude the light when desirable.

I have had the best success in wintering in the cellar, under the dwelling. It would require too much space to give explicit rules enough to enable every one to govern ventilation. I will endeavor to renew this subject at some other time. I will merely add, don't try to keep them too quiet, or dormant; and don't let the mercury go below freezing. The less ventilation you give, the more quiet they keep. Every stock in a natural condition contains, at this date, Jan. 10, 1876, more or less brood, in every stage of development, and the more air you can give them, and keep the mercury at 35 or 40 degrees, the more brood they will develop; and upon the result of that breeding depends the strength of your stocks in April and May. As the season advances, it will be necessary to shut off nearly all ventilation, at times, to keep them from coming out and getting down. If the mercury goes below 32 degrees, shut off all ventilation. This ventilation business requires more experience and closer observation than anything pertaining to the bee business. And as I stated before, success in wintering depends almost entirely upon proper ventilation. Stocks, for the first thirty days after having been placed in their winter quarters, should have an abundance of air. I do not even exclude the light, any more than the direct rays of the sun. One more caution, and I am done. Don't let your bees starve to death, and call it some abominable disease. You cannot rely upon old honey, that has been in the combs for years, to winter them upon. Place fresh, new honey in the comb, where they can have access to it, and renew the atmosphere properly, and I think we will get rid of that notorious bee-disease. A. BEEASTICUS.

For the American Bee Journal.

"Ripened" Honey.

With your permission, Mr. Editor, I will take our old friend Charles F. Muth to task a little, for what he says in regard to "ripening" honey. For two years past I have employed 72 four gallon stone crocks, as extracted-honey reservoirs, keeping them when filled uncovered, in a cool, *dry* place. Of clover honey I know but little, but of basswood honey I can say that I believe after five years experience, that there is but one way to get a good article, and that is *not* to take it from the bees until nearly or quite all the cells are capped over. But, says one, "Such a course increases our labor, and decreases the number of pounds surplus." True, but that does not prove that "such a course" is not the only way we can procure HONEY, and not sour nectar. When we get a goodly yield of uncapped honey, it has to go begging a purchaser. The day has come to most of us when we must expect to find a *home* demand for our honey, and must necessarily do something to increase this demand; I will warrant uncapped honey to *decrease* it. Does not every one of us know that basswood honey, extracted before capped, is more like poor syrup or molasses than like the same honey in the comb, stored on the same day?

I have employed two large tin tanks holding 1,000 lbs. that have always been left open for the very purpose Mr. M. speaks of, and I have yet to see the first

pound of basswood honey taken uncapped that did not sour more or less. The mischief is, that the very honey that it pays best to extract, viz.: that which comes with a rush, is surest to sour.

Those of us who do let this *nectar* become HONEY, before we extract it and put it upon the market, must suffer for the reputation given extracted honey by the *green* stuff on the shelf beside it.

I propose to label all my box and extracted honey, and do my utmost to give entire satisfaction to the end. This is the selfish course. There are two kinds of selfishness, which embrace all human action, viz., the wise and unwise. It is *selfish* to be honest, for "honesty is the BEST policy." JAMES HEDDON.

Dowagiac, March 24, 1876.

Maury County Bee Keeper's Society.

The Maury County, (Tenn.,) Bee Keeper's Society held their regular quarterly meeting at Columbia, on Saturday, April 1st.

Present: W. S. Rainey, President; Wm. J. Andrews, Secretary and Treasurer; S. D. McLean, Travis McLean, A. B. Biffle, David Staples, W. A. Alexander, W. F. Moore, N. B. Sowell, —— Timmons, J. C. McGaw, J. C. Moore, —— Estes, T. J. Pickens, Wm. Gilmer, J. H. Gregory, Jno. B. Bray, of Giles county.

Owing to the inclemency of the weather and rumor in regard to small-pox, there was not as good an attendance as usual.

The minutes of the last meeting were read and adopted.

Mr. J. B. Bray, of Giles, asked and obtained permission to offer a few remarks. He thought our Society a good thing, and a step taken in the right direction. He would ask if we propose to hold all our meetings at one place, and suggested that we hold meetings at different points. He would like to have the Society hold a meeting at Culleoka—that if we would do so we would be met by a number of bee keepers from over the line.

The Secretary stated the constitution provided that the meetings should be held at such time and place as a majority of the members present at any stated meeting may determine: that at the last meeting it was agreed to hold the present meeting at his residence, as queen rearing was the topic for discussion, that it might be amply illustrated in the hive, but we had had a very cold snap, which had prevented making any progress in that line; in view of which fact he would move that the question of queen raising be carried over to the next meeting, and that another meeting be held at Columbia the 1st Saturday in May; that one be held at Culleoka the 1st Saturday in June, and the next regular quarterly meeting in July at Columbia, which motion was seconded by J. C. Moore. Mr. J. C. McGaw thought that a meeting at Culleoka would be for the benefit principally of the bee keepers of that section, and would suggest that the bee keepers of that section organize a society, and then let us meet with them jointly on the first Saturday in June. The Secretary's motion was adopted.

Mr. Staples asked if we proposed to discuss the subject to-day.

The President replied that it might as well be opened to-day, and concluded at the next meeting.

Mr. S. D. McLean, who was appointed at the last meeting to prepare an essay on "Queen Rearing," then arose and read the following:

QUEEN REARING AND ITALIANIZING.

Among the varied operations of the apiculturist, the subject of queen rearing and Italianizing is a very important one, and should receive a due portion of that care which is essential to success. To note some points bearing on the subject is the design of this sketch. The most essential pre-requisite is a queen of undoubted purity, which should also be very prolific. The queen's prolificness can be ascertained by inspecting the combs to ascertain the amount of eggs produced in a given time; her purity can only be determined by the markings of her offspring. Should her worker progeny show three well defined yellow bands around the abdomen, with uniformity of color, she may be regarded as having purely mated. But should her progeny be of a mottled appearance, or with but one or two bands, she is impurely mated and worthless to breed from. For the information of those who are uninformed, as to the markings of pure Italian bees, it will be necessary to remark that the first band next to the thorax is very narrow; the second is broad, and separated from the first by a very narrow black ring; the third and last is not so broad as the second, but is well defined. They should all be of uniform color. Bees marked thus may be regarded as absolutely pure.

In addition to a new queen, a full colony is a necessary adjunct, for the building of and caring for queen cells. The colony should be in a prosperous condition, having great numbers of young or nursing bees, with plenty of honey and pollen, especially should there be plenty of pollen in the hive or coming in. From this bees prepare a milky white fluid, said to undergo a partial digestion in their stomachs, which they feed to their young while in the larvæ state. A superabundance, called a royal jelly, is fed to the young queen to fully develop her for the duties she is to perform as future mother of the colony. A marked distinction is

observable in queens raised from cells as above nourished, and those raised in weak and half starved colonies or nuclei. While the former produce large and well developed queens, the latter produce correspondingly small and weakly ones. In addition to the above, it is necessary to have plenty of Italian drones in the apiary, that the young queen's chances for purely mating in her bridal trip, may be increased. Preliminaries having been gone through, some practical instruction becomes necessary. Several ways are practiced by different queen raisers to arrive at the same result, and success crowns the efforts, more or less, of the different methods practiced. Every queen breeder must have queen cells, raised either in a full colony or nucleus, and this is attained by rendering the bees destitute of a queen. Those raised in a full colony are thought by most queen raisers, to be the best. To secure the benefit of a queenless colony, and yet preserve the queen you breed from against the risk of being introduced to a strange colony of bees, for each batch of queen cells raised, is certainly the best economy. To do this, select another strong colony with plenty of young bees for nurses, remove the queen and shake the bees from the brood combs, being careful not to leave a comb containing any eggs or brood. Then from the colony you have selected to breed from, take as many combs containing eggs and larvæ as was removed from the first, and after having shaken the bees from them, give these last named combs to the queenless colony, and place the combs taken from the queenless colony in place of those removed from the colony you bred from. This is simply an exchange of the combs of the two colonies. In like manner, there may be an exchange of combs with the colony containing your fine queen and another of the lapse of eight or ten days, for the black brood placed in your breeding colony in the first exchange will be so far advanced in that time that it would be impossible to raise a queen therefrom. About ten or twelve days after the exchange is made, there will be from three to a dozen, and sometimes many more, cells capped and ready to be disposed of. If removed sooner they are liable to be injured or destroyed, as they are very tender—the least jar often causing death to the embryo queen. The disposition made of these cells for the purpose of raising queens for market or Italianizing black bees vary, as stated above, with different breeders. Simply for the purpose of Italianizing, an easy method is to insert one of these cells in each of your black colonies, the black queen having been removed the day previous. This method, though often practiced, is objectionable, as the colony is too long without a fertile queen, which tells heavily on the colony.

Another method practiced is to insert these cells in frame of nursery cages, a cell in each cage, and suspend the frame in the midst of a strong colony of bees until the young queens are hatched, and then divide the colony into as many nuclei as there are young queens in the cages, and give one of the queens to each of the nuclei. After the queens are fertilized, the nuclei may be built up into strong colonies, or the queens removed and introduced to black bees the usual way. Still another method practiced, is to remove these cells entirely from the bees, and hatch them by means of artificial heat, and so soon as hatched they are given without any precaution whatever, to queenless nuclei or colonies. The reason for introducing such young queens without the necessary precaution, is from the fact that they are destitute of that peculiar scent acquired by contact with other bees, (their only apparent guide in detecting strangers) and consequently they are not regarded as intruders. But the method most generally practiced, and most convenient for the mass of the queen raisers, is to form nuclei of two or three full sized combs, with plenty of bees to protect each nucleus and generate the requisite amount of heat for the full development of the queen, and insert a cell in each. When the young queens hatch and become fertile, they may be removed and introduced to black bees in the usual way. The nuclei are then ready for the insertion of other cells. This may be kept up so long as there are drones in the apiary. To form these nuclei, take from a strong colony a frame of hatching brood, together with adhering bees, also another or so with bees, and a sufficient quantity of honey to last the nuclei a few days, until the bees begin to work. Supply the place of those removed from the hive with empty frames or combs. Care must be taken in removing the combs from the hive that the queen is not removed also. The best time to form nuclei, is late in the evening. By morning the bees are more composed than if allowed to fly out immediately. Many of the old bees will return to the parent hive, but the young ones, having never flown from the hive, will remain not knowing where to go. There are two methods of rearing queens from select eggs or larvæ, one called grafting, the other inoculating, which are gaining some favor with apicists of late. They each want more evidence of practicability, before recommending to the tyro in apiculture. In the first method a black colony of bees is deprived of its queen, and in five or six days there will be queen cells built with royal jelly and larvæ in each. Remove the larvæ, and select a larvæ just hatched from the egg of a fine Italian queen. With some suitable instrument, as the point of a toothpick, carefully re-

move the selected larvæ, and insert it in the cell from which the black larvæ was removed. The bees will accept the change and rear a queen therefrom. The other method is to insert the selected larvæ in incipient queen cells of a queenless colony, and the bees will supply the royal jelly, and from the inserted larvæ, rear a queen.

The Secretary said he had learned since coming into the room that Mr. C. C. Vaughan, who had also been appointed to prepare an essay on the same subject, could not be present, as he had gone into the *queen* business more extensively than any of us—that he had a *young one* at his home that would weigh from fifteen to twenty pounds.

The society unanimously voted that Mr. Vaughan was excusable for his absence.

The Secretary moved that the further discussion of the subject of "Queen Rearing and Italianizing," be postponed until the meeting in May, and that as nearly every member present had had some desertions in the last few days, we take that subject up. Adopted.

The President called upon the Secretary to open up the question. The Secretary replied that he preferred to hear the experience of others, and jot it down; would state however, that he was in his yard on last Friday; that he observed one stock on the eve of swarming or deserting; that he closed up the entrance to the hive, and that those which had got out, after flying around for a while, returned and re-entered the hive; that a fugitive swarm entered the yard during the evening, but as he was not present, preferred to have Mr. Staples speak of it.

Mr. Staples said he had plenty of experience in that line this year, and that he could not assign any satisfactory cause for it. Have written to different bee journals and some prominent apiarists, but had been unable to get any satisfactory reasons as to the cause or remedies therefor. They had deserted brood in all its stages, with an abundance of pollen and honey. In the hive referred to by Mr. Andrews, I opened it in the evening and found everything in plenty; on the same day started a nucleus with the combs and brood of our Dadant queen; had caged and placed the queen of the stock of bees of which the nucleus was formed, and laid the cage containing her on top of the hive. Shortly after I discovered something wrong in the yard, and found an intruding swarm entering the nucleus. I caught the queen and caged her also; she died during the night. I fumigated the bees and they took up peaceably with each other. Like Mr. McLean, I like strong colonies for early queen rearing, and had selected the strongest in our yard, but those refugees entering it made it much more so. By having strong stocks to rear from we get more and better queen cells. Was not able himself to assign any reasons for bees deserting; there was a general rule among bee keepers that bees would not desert brood and eggs, yet it had failed in the last few years. We have had an open winter throughout the United States, and bees have been rearing brood all the while; the mortality has also been great in this locality, all stocks have young bees, and he could not see why young bees should be playing such tricks, unless it be that when the weather is warm, and the bees flying out in great numbers, induced the queen to come out. In the case on yesterday it was not poverty—neither was it natural swarming—but something uncommon.

J. C. Moore. Did you notice whether the queen was with the first swarm?

D. Staples. Did not; but found plenty of eggs in the hive, showing that they were not queenless.

S. D. McLean. In reference to queen being with them would say that a queenless colony never swarms out. If queenless and wanting in store they will die in the hive. Yesterday was a warm fine day. We have had a remarkable winter, and our bees were very weak. I think there are several causes for their deserting—one cause is their being robbed, and another is want of stores.

J. C. Moore. I made the inquiry of Mr. Staples because I had a swarm to come out which had no queen, yet they deserted the hive by swarming as they do in natural swarms. I found the queen dead on the bottom board.

S. D. McLean. Perhaps the dead queen of Mr. Moore may have been the queen of some other colony which had deserted their hive and intruded upon his. In such cases bees form a complete knot over the queen, and hug her as it were to death. It may have been a queenless hive, and an other queen attempting to take up quarters in it.

President Rainey. That is tact more becoming to a *lawyer* than a *doctor*.

J. C. Moore. I am satisfied that there was no other queen, and that the dead one was the one belonging to the hive, for I had found her a few days before in a helpless condition, and had offered her some food, in endeavoring to partake of which she had fallen to the bottom board. I am very positive that she was the one belonging to the hive.

D. Staples. Mr. President, in the discussion of this question a new subject has arisen—that is the instinct of bees. He did not think that bees were governed by instinct any more than any other animals; they were not governed by instinct but by surrounding circumstances.

S. D. McLean thought they were governed by instinct; they of themselves have made no improvement.

D. STAPLES thought if they were governed by instinct they would invariably do the same thing as it was implanted in them by the God of Nature.

S. D. MCLEAN thought it was instinct that prompted the bees to remain and die with their queen, and if they had lost their queen, with no means left them to rear another, to die in their hive.

D. STAPLES thought if you got instinct into the bee that you could also get it into man. The dog and horse had forethought to return to their homes, as well as all the lower order of animals; that bees had made improvements; they make cells a certain shape and length; if combs are much apart they will make them longer; had had them two inches deep. If they hadn't room to build another comb, but too much space between them, they would fill it up by making their cells longer. Under circumstances they work as man does.

The Secretary then exhibited a Quinby smoker, a Root queen cage, metal corners, the different size frames in prominent use, specimens of artificial comb foundations and some other novelties pertaining to the apiary, which attracted considerable interest.

S. D. MCLEAN was quite sure the *reason* of man had not equaled the *instinct* of the bee in the construction of combs.

D. STAPLES asked for further time for the executive committee to make a report.

Mr. J. B. BRAY, of Giles, was unanimously elected a member.

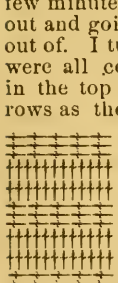
S. D. MCLEAN moved that the society adjourn to meet on the first Saturday in May, at Columbia. Motion adopted.

WM. J. ANDREWS,
Secretary and Treasurer.

For the American Bee Journal.

My Observations.

DEAR SIR:—Last summer I hived a swarm of bees in a box hive, and put them under the shade of a tree, and in a few minutes I saw that they were coming out and going back to the gum they came out of. I turned up the hive to see if they were all coming out, and I saw the bees in the top of the hive in as compact rows as they could be, in the following way:



One row lengthways and the next crossways, and so on, clear across the top of the hive.

I was convinced that by this way they make their comb the exact distance apart, and that is the reason that the Italian bees are larger when they build their own comb, as they are larger than the black bees. The reason of the bees returning was because the queen had failed to come out of the old hive.

Enclosed is a bee killer. I saw it holding a bee by the bill, and it held on to it till the bee died. It was on the under side of the bloom of the golden rod; enclosed is the insect. It has been in a glass jar for three months without anything to eat, and is still living when I start it. I do not know whether they are plenty in this country or not.

ROBERT T. JONES.

Flat Rock, N. C.

For the American Bee Journal.

Cheap Winter Protection for Bees.

I have lately devised a cheap winter protection for bees on their summer stands; and as I find that it fills very well the aim in view, I give it herewith to the readers of the old AMERICAN BEE JOURNAL.

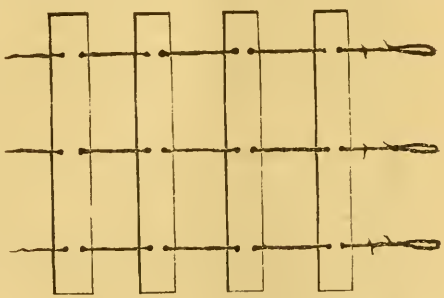
Cut some plasterer's laths in three equal parts: you will have small laths 16 inches in length.

If your hives are very tall,—for instance, as tall or taller than the "King," so called the "American hive,"—cut the laths in two.

Pierce two ¼ inch holes at each end, three inches from the ends, and two similar holes in the middle of every lath.

To do the work quickly, use a pattern. Put the pattern in the bench press, with 3 laths, and with a wimble you can pierce three holes at the same time. These twin holes should be pierced crosswise, ⅜ of an inch from each other.

When your laths are pierced, take a tarred string and pass it into the twin holes at one of the ends of each lath, so as to have every lath about three or four inches apart from each other. Pass a second string in the twin holes of the middle of the laths, and at last, a third string in the holes of the other end of the laths, taking care to allow about the same distance between every lath; i. e., 3 or 4 inches. Then you have a kind of rope ladder, whose steps are three or four inches apart.



Now go to the hive to be protected, and spread this ladder behind the hive so that the middle of the ladder corresponds with the middle of the hive. Cover the ladder with straw, one foot or more thick,

taking care to spread the straw evenly. With the help of an assistant, draw the ladder and the straw against the hive, bringing the ends of the string ladder against the sides of the hive, taking care to raise, at the same time, the laths on their ends; then tie the strings firmly in front of the hive, and it is done.

As the tarred strings cannot be tied easily, on account of their stiffness, I lengthen them with small bits of common linen string, which slide more easily while placing the straw against the hive. I take care not to put straw in front of the hive,—to let the sun warm it. I have more than 60 hives thus protected against cold winds; and I think they are as well protected as if they were surrounded by stacks of straw.

The expense does not exceed a few cents for each hive. The implements will last a life-time, if put in the barn after winter. The hives have not been disturbed, for they have remained in the same place, and the straw will be easily removed in spring. I recommend this protection to all the bee-keepers who inhabit the prairie.

Hamilton, Ill. CH. DADANT.

For the American Bee Journal.

Reply to C. P. Dadant.

It has been truly said: "If we expect to arrive at the truth, we must have no *desire* as to what the truth may be." Probably Mr. C. P. Dadant has not worked as hard, produced better extracted honey, nor sold at as low prices as I have, to build up that "home demand" he refers to. At least, I have made a specialty of the above.

One peculiar fact in the matter is, that all these parties who can sell all their honey right out, about home, for 20 to 25 cents per lb., cannot sell one pound more. Not a man of them will pay me 12 cents a pound for just a little more.

Honey can never become a "staple" at 15 cents per pound, retail. Besides, it costs 10 per cent. to retail it, whether *we* do it, or hire our grocer to do it for us.

"Granulated honey" is not a merchantable article, outside the apiary, and very few will buy it there, though all think it "so nice."

How can honey become a "staple article" at $1.80 cents per gallon, while the best cane syrup sells for 90 cents per gallon, and is superior to honey, for every purpose except sauce?

It seems strange that consumers should become disgusted with "adulterated honey," when we producers cannot tell it from the genuine.

Adulterated honey wont trouble us any longer, as honey must rank secondary to sugar syrup when sold in bulk, for cash. It does that now.

Friend Dadant: I "tested" the "comb-surplus production" business several years ago. Even if 25 pounds of honey is required to produce one pound of comb, that does not favor your position, as I can see. Even though I could see no other cause for my bees dying, except thin, watery stores, they did not die from that cause, as I afterwards proved, and I did not say they did. When honey becomes a "necessity of life," it will be when it is cheaper than other necessities; say, four or five cents per pound. The same outlay in bread, however, would sustain life longer.

Perhaps some kinds of bee-keeping is profitable, in some places, with some men: still, I think with friends L. C. Root, Capt. Hetherington, and many other special producers, that whoever gets money or "profit" out of bee-keeping, will be sure to earn all he gets. The reason that Heddon still sticks to bee-keeping is, because he cannot get out. When I can sell out at 25 per cent. discount, if I don't sell, then Mr. D. will have the palm.

Why couldn't Mr. D. as well have said: "Don't extract honey till *all capped over*—if *honey* is wanted, and not nectar." Particularly is this rule imperative during the bass-wood harvest.

I will agree that there is "room for all" who can succeed in making apiculture profitable. Just at present there seems to be as much room for the "dishonest ones," as any other class. Some who have done most at "proselyting" are now well proven to be among the "crooked." Let each person decide for himself how he will take his surplus, being governed by the demand around him.

Nearly every mail brings in one or more letters congratulating us on the course taken at our State Convention at Kalamazoo, in regard to the overproduction matter. Probably, at this time, thousands are thinking as we do, but still carry little white flags of truce.

Mr. Editor, will you please publish the claims (if not specifications and all) of Mr. Coe's house-apiary; also of Mr. Wagner's (now Mr. C. O. Perrine's) comb-foundation; that the bee-keepers may know what they really own, and how long the ownership will last.

Let the bee-keepers of this country know what these men do, and do not, own, if they expect us to respect their claims. Models embrace too much, usually, and far more than the patentee has been allowed to claim.

Spring very backward, and many bees dying, in this locality. JAS. HEDDON.

Dowagiac, Mich., April 7th, 1876.

[As these are matters of general interest, we shall be glad to publish the patented features owned by Messrs. Coe and Perrine, if furnished.—ED.]

For the American Bee Journal.

The Black Bee—Cause of its Running Out.

Under the head of The Black Bee, it may not be thought improper to class the three varieties of black, brown and gray bee, although they may be distinguished by peculiar characteristics, as but varieties of the same race, for certainly as regards mildness of temper, fertility and honey gathering properties, the large gray and brown bee are certainly preferable to the small and vicious black one; yet, as in respect to any observations we are about to make in relation to the stock deteriorating or running out, what would be applicable to one, would be alike true of the other. We have thought it better therefore to designate all as the black or dark bee.

In passing through the apiaries of our friends in the country, how frequently do we hear such remarks as these: "Our bees have ceased to be profitable;" "The timber has been cut off and too much clearing has been done;" "My father had excellent success and my grand-father before him even better than he." So frequently have we heard these and kindred observations that we have been led to look closely at the subject and see, if we cannot assign a better reason why an industrious little worker should cease to be as laborious and profitable (all conditions being equal) as in earlier years. And yet while reluctantly we would listen to the complaints of our friends at their loss, we would occasionally happen upon a more fortunate one, whose apiary was in a prosperous condition, stocks increasing, and the product of honey exceeding that of former years. (This cannot altogether be accounted for in the fact that this one is a more careful bee-keeper than those just before mentioned.) But upon further inquiry we learn from him that on several occasions he has been fortunate enough to find bees in a tree in the woods which he has secured and brought home, and at present they serve as an increase to his stocks, or at another time he has found a swarm hanging upon a limb or bush, which he has succeeded in hiving and placing in his apiary. But what is more probable than either case, he has been at a sale some fifteen miles distant where some half dozen strong colonies were offered at a sacrifice, and which he has purchased and placed along side of his own. Let us see if in this fact we cannot learn the secret of his success—if in this admixture of *foreign blood*, (shall we call it) we cannot account for his more prosperous condition than that of his neighbors.

How common a practice it has become for farmers to introduce fresh blood among their cattle, their sheep, their hogs, and even their poultry, indeed has this become of such universal practice, that only he who acts upon it, is regarded as the successful and thrifty farmer. This course of breeding then being so generally sustained, by those who have found it so much to their interest to follow it, and, as we have said before, of such almost universal adoption, as it holds good and has proven profitable in the instances heretofore cited, why then should it not be acted upon in the proper propagation of our bees? Believing then, as we do, that the long continued course of in-and-in breeding has contributed to a greater extent than all other causes combined, to the deterioration of the black bee, we shall offer a remedy, and one which we think will not only accomplish the desired end, but will be of easy execution.

We hope it will not be thought that we have here assumed that the dwindling or running out of the black bee proceeds from any other than *natural causes*, which certainly can be accounted for in the plain reasons heretofore given. Far be it from us to give credence to such an idea, when for years past we have considered that our most productive honey-gatherers and most prolific breeders, were a cross of the Italian with the gray bee. It will be seen that the prime object to be attained, is the admixture of a strain from which we have not hitherto been breeding. We care not if you please, that you select the least to be desired, the small black bee, our aim should be to carefully avoid the dangerous system of in-and-in breeding which we make free to say has been the cause of the deterioration, and *not a failing of any distinct species.*

Let our friends who have met with the serious reverses before spoken of, make an arrangement with a fellow bee-keeper some ten or fifteen miles distant to exchange an equal number of stocks, (say five or six) we care not whether they all be the black bee, and our word for it, the result cannot but prove satisfactory to both parties concerned.

Just by way of parenthesis, we may be pardoned for here stating that this is not intended as a *special plea* for the black bee, for we have not a single colony among all our stocks.

But to the main question again. To attain the highest degree of improved breeding in our bees, it cannot at this late day be denied that an addition of Italian stock must be resorted to, however small that addition may be at the outstart. We have bred the Italian bee constantly since 1861, (of the first importation) and as we said before, our best honey producers, (at least of box-honey) were a cross of the Italian with the gray bee. This indeed proved so valuable an acquisition, that

from one of our best cross-bred queens, we have bred the most satisfactory stocks we have ever kept.

In the penning of this article, we have no axe to grind, we have heretofore bred queens only for our own use, and that of our immediate neighbors, but on the other hand we have had an earnest desire to reach the facts in the premises stated in our caption, and so far as we could, present a method by which future losses might be prevented. Should any of our brotherhood differ with us, or if agreeing, point out a clearer remedy, we should be heartily glad to learn it.

Should this hastily written sketch meet your approval, we shall at an early date write an article on "Improved breeding of the Italian bee." We affirm without fear of successful contradiction, that the Italian can be improved in a more marked degree than can any of our native bees.

WM. S. BARCLAY.

Beaver, Pa., April 4, 1876.

MOSES QUINBY,

A MEMORIAL ADDRESS DELIVERED BEFORE THE N. E. BEE-KEEPERS' ASSOCIATION, FEB. 3RD, 1876, BY P. H. ELWOOD.

In the history of every profession or occupation we find the names of a few who have outstripped all competitors; men possessed of that rare gift, power of original thought; pioneers who have explored an unknown wilderness and mapped it for future possessors. In the history of bee-culture there are four names that stand out prominently beyond all others: Huber, Dzierzon, Langstroth, and Quinby. Huber, the blind apiarist, who by his great ability and untiring perseverance, discovered more of the interior workings of the bee-hive than any other man that ever lived: Dzierzon, the Quinby of Germany, who confirmed the hitherto unbelieved statements of Huber, and added that equally surprising one of partheno-genesis: Langstroth, our own countryman, inventor of the movable comb-hive (without which there would be no occasion for gatherings like this) and author of a work on bee-culture, that for scientific accuracy and beauty of expression, is not only unsurpassed, but almost unsurpassable: And last, but not least, our own Quinby, who, adding largely to the knowledge of his predecessors, combined the whole into a system of practical management, unequaled in simplicity and feasibility, and finally, as the crowning act of a lifetime spent in the service of others, gave to the world his celebrated discovery, that the liquid part of honey was, under favorable circumstances, entirely evaporated within the body of the bee, a discovery second to none ever made in the natural history of this insect. As very many do not, as yet, accept his conclusions on this subject, I will say that I have obtained from the body of the bee, granular masses that under a microscope of low magnifying power, appear to be identical in composition with similar masses found upon the hive bottom. And notwithstanding the fact that Mr. Quinby is the author of our most practical work on bee-keeping, and, in my opinion, the inventor of the best movable frame hive, bee-smoker, and originator of other devices, too numerous to mention, I yet venture the assertion, that in future years he will be best known as the discoverer of the true nature of the accumulations found beneath the cluster in seasons of repose.

Mr. Quinby's life work was to elevate bee-keeping to the dignity of a pursuit among men, and he has accomplished his mission. Bee-keeping as a specialty will date from his time, and if Huber has earned the title of "Prince of Apiarists," certainly Mr. Quinby is entitled to that of Father of Practical Bee-Culture. He sowed that we may reap. He labored without fee or reward, often, indeed, without an appreciative public. Now that he is gone, bee-keepers will miss his counsels and think more highly of his work. He had not, it is true, the advantages of a liberal education, but he largely supplied the deficiency, by his great observational powers and native common sense.

While he was anxious that the millions of pounds of honey now lost, might be gathered, he had no fears of an overstocked market and often narrated the history of the cheese trade as an illustration, saying that while this industry was in its infancy prices were lower than at present, and that the market was really in more danger of being overstocked than now, as the facilities for disposing of the products of the dairy have increased faster than the production. The history of this business, he thought, would be the history of ours. And after watching the honey trade closely for a few years past, visiting the principal eastern markets, etc., I am compelled to accept Mr. Quinby's conclusions as correct. There may be temporary depressions in this market, as there are in all others; prices may fall below the cost of production; but this will be, not because more is produced than can be consumed at remunerative prices, but because the facilities for handling the crop are undeveloped. Our greatest enemy today (outside of those who sell glucose for honey, and paraffine for beeswax) is the old fogy bee-keeper, who brings his honey to market in the most unattractive and undesirable packages. I find that a very small quantity of his honey will supply a larger town, and that the prices he establishes often prevents the introduction of the better goods. It is to our *pecuniary* interest to make better bee-keepers of such

men. Yet while Mr. Quinby was doing just this very work, many bee-keepers thought him to be seriously injuring their business and were forever crying out, "My occupation's gone."

High as Mr. Quinby ranked as an apiarist, he stood still higher as a man. We who were accustomed to gather at his fireside, can never forget his wholesome hospitality. He was a true gentleman, unfettered by the stifling conventionalities of modern life. He was always the same, always having a hearty welcome for his friends, and a kind word for every one. True to his Quaker education, he was an intense hater of shams, especially of the human kind. He was honest; a characteristic that is getting to be as rare as it is valuable. There is no principle in business better established than that "Honesty is the best policy." Mr. Quinby unlike most men, was honest from principle.

The mental, rather than the motive temperament predominated in him, that is, surplus vitality, would more naturally develop into extra mental work than into intense muscular activity. He was a thinker, an investigator; an originator, rather than an imitator. He was calm and deliberate, not excitable; did not plan one minute to execute the next and destroy the following. As he viewed a subject from many standpoints, he was not quick in forming conclusions. In quickness he could not keep pace with many who were of lighter caliber than himself. Muskets sometimes hang fire, but big cannon are not usually handled with the rapidity of small arms. Slow to anger, he was not tame in spirit when he had just cause for indignation. He had a very modest opinion of himself, and in measuring others, did not set himself up as the standard of perfection, as is the manner of some.

His last years were his best. His best and most enduring work was done after he was sixty years old. His famous assertion then made, so ably defended, that cold *usually* kills the bees, has never been successfully contradicted. He never wrote so well as in the later years of his life. He continued to improve in both subject-matter and manner of expression. His bodily powers were gradually failing him, but his reasoning faculties were never so keen as in the last five years of his life. With more of the elements of the politician about him, he would have ranked higher during life, but his reputation would not have been so enduring. Now his merits are just beginning to be appreciated.

How fitting that a life so calm and pure should have so peaceful an ending. On the 27th of May last, he retired at his usual hour, in seeming good health and spirits. Before the hour of midnight, without awaking from his slumbers, he passed from time into eternity. Thus at the age of sixty-five, ended the life-work of our counsellor, friend and public benfactor. He was more fortunate than the most of men, for he was able to take with him his most valued possession, the hard-earned accumulation of a lifetime—a noble character.

"So live, that when thy summons comes to join
The innumerable caravan that moves,
To the pale realms of shade, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry slave at night,
Scourged to his dungeon, but sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him and lies down to pleasant dreams."
[Bryant.

For the American Bee Journal.

Partheno-genesis.

In the January number of *Moon's Bee World*, Mr. J. W. Howell expresses some doubt as to the usually advanced theory regarding the production of drones, *before* impregnation, and says further that he has come to the conclusion "that the various writers on bee culture must be mistaken in regard to the rearing of drones, and the whole subject, it seems to me, ought to be rehashed and gotten up on more scientific principles."

As there are many others that have misgivings as to the truth of partheno-genetic production, I have condensed, in the following lines, some information derived principally from German sources.

It is now fully thirty years ago that the Rev. Dr. Dzierson announced, in a quiet manner, that "drone eggs do not require fecundation, but the co-operation of the drone is imperatively necessary for the production of worker bees."

Of course there was no want of persons who were ready, with their pens, to inveigh against such bold attacks upon the holy truths of science; but all who investigated the matter experimentally, were compelled to acknowledge its truth; thus was the sanction of science at last obtained, and the fact or *law* discovered by Dr. Dzierson was thenceforth called partheno-genesis.

But few apiarists push their inquiries any further than the narrow limits of the apiary; but few know whether this law is restricted to the bee alone or whether it holds a wider dominion in animated nature.

Of all investigators of the subject in Germany, Messrs. V. Siebold and Leukart have contributed most towards placing the law upon a firm scientific basis.

The former has given to the public the result of many years' labor in his latest work, entitled "Regarding Partheno-genesis of Anthropodes" (Leipsic). This work exhibits a conscientious and labori-

ous examination of the subject, marked, in the manner of conducting the same, by the greatest perspicacity. The author gives his experiments with seven different species, and closes his work with the chapter summarizing his conclusions.

Early in the controversy regarding the truth of partheno-genesis, the possibility of the queen being a hermaphrodite was seriously broached, but v. Siebold demonstrated the falsity of this proposition. He has likewise discovered that some species produce males and others females; and that this is not a matter of chance, but that the *Polistes*, *Vespa* and *Nemata*, as well as the bee, produce only males, while the *Apus*, *Artema* and Limnadia, always produce females. The same holds true of certain species of hymenoptera. He has no doubt but that further investigation will prove it to be no isolated exception to the law of reproduction, but that it occupies a hitherto unthought-of range in creation.

To such as feel reluctant to abandon the belief in the hitherto universally accepted law or theory of reproduction, which requires, *in all cases*, a co-operation of sexes to produce an animate creature, he recalls the words of Aristotle, "Observation is more trustworthy than theory, and the latter is only to be accepted when it agrees with the former."

JOHN P. BRUCK.

Los Angeles, Cal.

For the American Bee Journal.

Remedy for Foul Brood.

MR. EDITOR.—Some years ago, and during several seasons, about the middle of summer, when the weather was very dry, several of my hives gave forth a very offensive odor, perceptible some distance off, and made me apprehensive that the bees were troubled with foul brood. They appeared to be in a healthy condition, and I did not open the hives to make an examination, but waited to see if such should prove to be the case. After a time the offensive odor ceased to be perceived, and the hives proved to be as healthy as ever. I then came to the conclusion that the cause of it was lack of a supply of pure water, and made arrangements to supply them with it, which I have done ever since, and have not since then found any signs of unhealthiness among any of my bees. On the contrary, I have reason to believe that the plan I have adopted is the surest to ward off disease. And it is my belief that impure water is the prime source of foul brood in any locality, and would earnestly recommend to all apiarists who are troubled with it among their bees; to give this plan a fair trial, feeling confident that if they will do so, all traces of the disease will disappear, and never be known among them again so long as they keep their bees supplied with pure, fresh water, which they consume in large quantities during the height of the breeding season.

On the north side of my apiary is a fence, just outside of which is a cistern of pure rain water. From a small reservoir containing four or five gallons of water, a small iron pipe is conducted under ground about twenty-five feet, terminating in the apiary grounds, in a nipple two feet above the ground, through which a small jet of water issues, falling into a small vase or basin, through which the pipe has been conducted. This is supplied with fresh water daily during the season, and is very freely visited by my bees, especially during seasons of drought, which we sometimes have in this climate. My apiary is not a large one, but on some days I have estimated that over 20,000 bees would visit this little fountain.

Natchez, Miss. JNO. R. BLEDSOE.

For The American Bee Journal.

Honor to whom Honor is Due.

Several times, seeing Mr. Dadant hit at in the JOURNAL, I concluded to give my testimony in case of imported queens. In October, 1869, rather late in the season, I received an imported queen from Mr. Dadant and introduced her successfully. This queen was well marked, but not as light as others I have, but she was the only one I ever had who reproduced herself *every time*, and I raised quite a number of queens from her during three years. This queen was good for four years. At the end of the third season she was superseded, and I found a young queen besides the old mother in the hive. At once I removed the old queen and introduced her to a rather weak colony, where she laid some, but before cold weather set in, I found her again superseded and gone. If I could get a queen like that again, no price would be too high; but this may be an exception, as I paid a few dollars extra for selecting a good queen; and sure enough, I never have seen a better.

Jefferson, Wis. W. WOLFF.

For the American Bee Journal.

Effects of the Extractor on Brood.

My experience and observations on this subject are quite different from any opinions I have ever seen explained.

With an extractor that runs *steady*, it is perfectly easy to turn it fast enough to empty *new* honey in warm weather without the least injury to eggs or worker brood; but it is more uncertain about drone larvæ, as the cells are so large that they lay perfectly loose in the cells when they are as large as half-grown workers, and at that size they are heavy enough to be

removed from the cells with a very low motion of the extractor.

I think those that lose brood by the use of the extractor either turn too *fast*, or their extractor does not stand *solid* and consequently *shakes* and *jars* the brood and dislocates it. But I think it is more likely that the brood is dislocated by shaking or jerking the bees off the combs, and the operator not thinking that he is handling the combs much *rougher* to get the *bees* off than the extractor does to take the *honey* from the cells; and if he finds any dead larvæ in the cells he wrongfully blames the extractor for it.

I have my screens lean back from the centre, which bring the cells more to a level, and the honey is easier thrown out, and the brood being nearer the centre, there is not so much force on it.

Ionia Co., Mich. S. K. MARSH.

For the American Bee Journal.

My Comb Foundation.

Four years since I wrote a friend in Europe to send me the apparatus, in use there, to make comb foundation. He sent me two plates (made of type metal) weighing 26 pounds, but being so busy with my farm I did not use them until last August; and this was how I did it:

I melted good clean wax in a can 15x11 inches, and 3½ inches wide, to accommodate the size of my frames.

Take a pane of window glass 10x14 inches, moisten it with a strong solution of salt water (made with table salt), dip the glass into the melted wax (of 140 to 150 deg. Fahr.) hold it free, so long as the wax is soft, then put the waxed glass into fresh water, and then you can take off the glass two sheets of thin wax, to be pressed in the apparatus for making artificial comb foundation, in a common cider press. Prepare a stand and cover for the metal plates.

I filled the wax can with warm water (110 deg.) and dipped the wax sheets preparatory to pressing, to make them soft enough to receive the configurations. The inside of the metal plates I moistened with a solution of sal soda, to prevent the sheets from sticking, by the hard pressing necessary. After getting off the comb foundation from the plates, I put it in fresh water to wash off the soda.

I used this artificial comb foundation for worker cells, and it was very valuable to me in making artificial colonies. My frames are 11x12, and the comb foundation 8x12; these I placed between finished combs. The bees readily work out the cells; it is pleasant to see them work on it.

The best temperature for preparing the sheets is 90 deg. Sal soda, (washing soda) not cooking soda, must be used on the plates. HENRY BOSSHARD.

Highland, Ill.

For the American Bee Journal.

Bee Smoker.

MR. EDITOR: Fearing there may still be found a few who are deterred from keeping bees from fear of stings, allow me to describe a smoker easily manufactured by any one with a little ingenuity. It is a modification of the Quinby, and though quite as effectual, may be made at a trifling cost. To a two-ounce tin box, solder on one side near the bottom a small tube four or five inches long, leading to the inside, opposite this in the bottom of box punch one-half inch hole and cover with perforated tin or fine wire cloth. This box should be attached by small wrought iron nails or screws to a small pair of bellows made of one-fourth of an inch board and covered with sheepskin, having a hole about three and a half inches from point to correspond with hole in bottom of box. Our own instruments are five inches wide by eight inches long, with spring holding them open attached to the inside, so that they can be worked with one hand. When wanted for use, the box may be filled with a little roll of cotton batting, dry decayed wood or other material. DR. D. R. PORTER.

Long Island, New York.

For the American Bee Journal.

Spring Management.

Now Spring is at hand, and bee-keepers have their bees out of their winter quarters, the next thing in order is to breed them up and prevent them dwindling away during the cold spring months. To secure this, we must see that they are kept warm, and have proper stores and combs.

To keep them warm, the hive must be *tight*, and the entrance contracted until it is very small; have a *good* quilt and some papers over the top of the frames, and take away all combs, if there is more than they can cover; leaving them the *best* worker brood-combs with honey stored in the top of them; make passages through them about four inches from the top, and place them in the front end of the hive, and one comb *full* of honey behind them, and contract the size of the hive according to the number of combs left in it. This can be done in different ways, either by using papers or by tucking the back end of the quilt down behind the combs. Whatever is used, it *must* be *close-fitting*, to keep out the *cold* and retain the *heat* and prevent any *bees* getting behind it and chilling.

Some bee-keepers recommend a board for a partition, but I think either of the others is better, as they can always be fitted to the hive; when in case a hive is stuck up with propolis, it would interfere with the board. The object of con-

tracting the size of the hive is that the bees will not have so much space to keep warm, and can better protect *themselves* and *brood*, and *rear brood faster*.

To induce the queen to deposit eggs, and the workers to rear them, it is *necessary* to keep a portion of the honey *unsealed*.

I have no occasion to feed any artificial pollen, as there is a bounteous natural supply in my range as early as the weather is warm enough to permit the workers to gather it.

As for honey resources, I think, I have as good as the country affords. Yet there are times during the season when there is no yield of honey in the flowers, and yet my bees *never cease breeding* until cold weather in October, if there is unsealed honey in the hives.

To get the best results in breeding, the brood combs *must* be *interchanged* by moving the central ones apart that have the most brood in, and inserting between them the outer ones that have the least brood in, until all are equally filled with brood, and as the colony increases, and the weather becomes warmer, the combs should be moved apart, and empty worker combs inserted between them in the *brood nest;* also empty frames should be inserted in the brood nest as fast as they can fill them with new combs, or better still, to insert frames with combs that were partly finished last fall. The above management will secure the *best* results in breedlng, but when empty combs are inserted for increasing the brood nest, *care must* be taken not to increase it beyond the strength of the colony; or in case of a cold spell they *cannot* protect all the brood, and some of it will be chilled and *lost*, and the *object sought will be defeated.*

Ionia Co., Mich. S. K. MARSH.

For the American Bee Journal.

Extracting from and Exchanging Brood Frames.

Page 210, AMERICAN BEE JOURNAL for 1875, commences an article from W. C. P. I do not know who he is, we always like to see the full name of the person writing any piece. If he does not like to give us his post office, leave that out, but give the name, county and state. He says the bees move nearly all the eggs, etc., from strange combs, or combs from other hives put in with different bees. Now, my experience is entirely different. With my bees it makes no difference whatever. My friend, W. C. P. may have bees of a different disposition from mine.

Some one, in one of the back numbers of the JOURNAL, speaks of putting all the combs back in the hive just as they come out, every one in its own place. We should make our combs every one straight and nice, (and the good apiarist will do it), so that they will fit any place, and in all places. If some of them at first have bumps or raised places on them, spring them back and pare them off until they are even. How can the keeper of many colonies dispatch business and get through in extracting, artificial swarming, etc., where he has to put every comb back in the same position it occupied before? Such practice may do for some persons, but it will not do for me. Some say, do not extract from the brood chamber. I know, under certain circumstances, it is very important to extract from the brood chamber. This is often necessary when we are only using one story hives. If we want honey we must have plenty of bees to gather it. In order to have plenty of bees, we must have ample room for the queen to lay. We know that without the free use of the extractor her room is often encroached upon, and that their instinct is for storing as close to the brood as possible, and that they are miserly and will not eat it out until compelled to do so. I often extract the outside combs of the brood chamber, widen out the middle sheets of brood, and set empty combs in the middle. This gives the queen room to spread herself again. E. LISTON.

Virgil City, Mo., March 29, 1876.

For the American Bee Journal.

Melilot Clover as a Honey Plant.

After a fair trial with the Melilot clover I find it is the best honey plant in America. Sow the seed in April or May, with anything, or any kind of grain, or or on any kind of soil, and it will grow. The earlier it is sown the better. It does not bloom until the second season, generally from the 1st to the 10th of July. It remains in bloom from 60 to 90 days. If you should want to have it come in late, say about the first of August, when you see it showing signs of blooming, cut it back to about six inches high, and you will get a late run of honey, which the bees will store in boxes. Fall frosts will not injure it. I have seen bees at work on it on October 5th. Webster describes it as a great honey plant. It makes a good quality of honey. My bees have wintered on Melilot honey this winter, and they have never wintered as well since I have been in the business. I have lost only two stands out of one hundred and ninety. They show no signs of dysentery, (except the two). They were put in the cellar on November 16th, and taken out about March 10th.

I don't think this clover would be good for cattle or horse pasture, although I have sowed it in my cattle pasture, and they keep it well fed off. On good ground I have had it grow seven feet high. Every other honey plant, last year, failed to give any honey.

I got 6,000 pounds of hay, all from Melilot, and I do know if it had not been for my Melilot clover, I should have failed to get any honey. I don't think there is any other plant that is as good to enrich land as Melilot clover. I think so much of it, I expect to sow forty or fifty acres for my bees. It always blooms when all others fail. I could not keep bees without it. Any bee-keeper who has tried it, will not be without it.

Lee County, Ill. R. MILLER.

For the American Bee Journal.

Can Bees Hear?

I do not claim to be master of bee literature. I have not read near all the books on the subject, nor do I think I ever shall; neither am I master of all their natural powers, instincts, and peculiarities, but I hold that bees have, at least, five senses, and perhaps *six;*—seeing, *hearing*, tasting, smelling, the sense of touch, and *common sense*, this teaches them not to use extravagant means to accomplish small ends.

All the senses enumerated, I think are generally admitted among bee-keepers who have carefully studied the subject, except the sense of hearing. This seems to be a bone of contention. As I stated above, I have not read *all* the works on bee-culture, but all those I have read, are not positive on this point: namely, "*Can bees hear?*" The theories generally admit the probability of their possessing this sense, but as far as I am aware, it has never been demonstrated by actual experiment and proof. One writer in Novice's Gleanings, (I have not the paper with me, hence I cannot give name or date,) who says he has lectured on bee-culture, states, that he has never been enabled to discover that bees can hear, although he has tried many experiments, such as shouting, rattling tin dishes, playing the fiddle, etc.; and this seems to be the general result reached by all those who have tried. Others, again, are firm in the belief that they *cannot* hear. Last winter an experienced bee-keeper offered to bet with me, that I might go down in his cellar among the bees, and shout with all my might, and I could not disturb the bees in the least, so firm was he in his belief that bees cannot hear. I *might* have lost the bet, had I made the attempt, but it would have been no evidence that bees are deaf.

First, allow me to point out the hypothesis that from a natural standpoint would indicate that bees *can* hear.

It is a universal law in nature, that she does not tolerate anything absolutely useless in her domain. Those who are at all acquainted with her workings, and especially those who have studied Darwin, will readily admit this. Nature is strictly economical upon this point, although she is exceedingly extravagant upon others. Take now, for instance, the most perfect of all the creatures, examine him closely and in no part of his body, internally or externally, will you find anything that is actually superfluous; to be sure, there are muscles for which we have no use at present, and "land-marks" which point to a different state of things; of the former we may cite the muscles connected with the ear, which although dormant and useless at present, point back to a time when we had use for them, and could prick up our ears, perhaps like any other ass, or the muscles under the skin, showing that that membrane could be set in motion at a stage of human development, when such a motion was necessary to our well-being. We are also possessed of teeth, called "eye-teeth," upon which there seems to be a surplus expenditure of strength for our present use; we find them developed more in some individuals than in others, protruding sometimes considerably beyond the others; this according to the theory of "evolution" and "progression," indicates that the human race was at one time carnivorous.

Without enumerating more instances, let us apply this end to bees: We find that they have the power common to most insects, of emitting many peculiar noises—they distinctly express anger, contentment and fear. The first, all bee-keepers recognize in the fine hiss, and the change when flying, from the honest hum of industry, to a finer key, which plainly warns you to beware. The second, we recognize in the peculiar hum emitted when the busy workers come home laden from the fields; how often do we see them stop for a moment at the entrance of their domicile and spread their wings, and the sound is immediately recognized as one of contentment and happiness. The third may be discovered by striking the hive suddenly when a peculiar rattling noise will penetrate the whole cluster. There are many other distinct sounds, such as the piping of the queen, and also of the workers when ofttimes they are running over the comb; the different degrees of sound emitted by the queen in her flight, the drone and the worker, etc. Now then, if bees were deaf, all this *music* would be lost to them; and if we apply evolution, it would point back to a time when they *could* hear, but as this would be the reverse of progression, and as it is impossible to see *why* they should need this sense at one time more than another, we must drop it as untenable, and the hypothesis points to the fact that *they can hear!*

Now for the experiment, proving that they can hear: Often thinking of the challenge by the bee-keeper last winter, I was tempted to try some experiment by which my position could be sustained, but having read and heard so much about such trials which proved useless, I had

little hope of success; nevertheless, one time when examining a stand of Italians, when holding up a frame for inspection, I gave a shout, and a rather loud one, when to my surprise and joy at the discovery, every bee upon the comb made a momentary check in her movements—not a motion was visible—but the check was only momentary—they immediately resumed their wonted movements. I have tried this, time and again, with the same result, also by bringing the shout down to quite a low key. I am also quite satisfied that swarms as they issue from the hive, are confused by the rattling of tin-ware, and alight in consequence thereof; but I shall prosecute my experiments still further the coming season, if I handle bees, and hope to make further developments in this direction. J. D. KRUSCHKE.

Hamilton, Ill., Feb. 10, 1876.

For the American Bee Journal.

Beeswax vs. Comb.

MILK AND HONEY APIARY,
BEESWAX CREEK, April 6, 1876.

MR. EDITOR: I thank you very cordially for the notice of that part of article referred to as page 104, namely that "Honey comb is one thing and beeswax another and very different thing." I am not in the habit of noting small typographical errors or criticisms on anything I may write. (This with me is a rule,) but in this case, with your permission, I will make an exception and proceed to show some of the facts, which I suppose to bear on the opinion expressed. I have this day under a strong magnifying power, examined some small flakes of broken comb, and also, some much thinner shavings of the same comb, melted on thin manilla paper. After cooling, the melted side closely resembles the unmelted flakes in texture, no real difference appearing. The shaved side is compact and shines like polished silver, and while of the same thickness as the flakes of comb, or even much thinner, they are much more tenacious and malleable. Of course the wax is homogeneous, while in thick places at the corners of the cells the walls of the cells are easily separated, small flat particles cleaving off readily. These particles seem to be patches overlapping each other, and forming the thickened walls of the cells. No one can fail to see the difference, even without the aid of a microscope.

Honey comb is not all alike; it differs not in thickness only, but in permeability. Honey comb not unfrequently has a wet or oily look, and as bee-keepers say, "sweats." Honey in boxes often has this look, and on close examination, the honey seems to have soaked into and through the caps. No observant box-honey raiser has failed to notice this not uncommon feature. In the fall of 1873, I had hundreds of boxes filled, and capped perfectly, which would not hold their contents, while on the hives even. The caps remained perfect, but the honey escaped. The bees thickened the caps, but still honey got out. Many of the combs contained hardly any honey, while others had only a few cells in different places, which were empty. Many of the combs could be sliced off just beneath the caps, without touching honey at all. Nearly every box was from eight to thirty-two ounces below weight, while the boxes were quite full of very pretty comb.

Honey comb rapidly decomposes in a damp, warm atmosphere. This is shown by leaving honey comb in shady, damp places in the grass, where it soon loses its plasticity and adhesiveness.

Hives of bees wintered in cellars or on their summer stands, frequently have mouldy combs, the edges of which are so decomposed that they seem destitute of wax. The form of the cells may remain, but the substance is so disintegrated, it will scarcely hold together.

From the above, Mr. Editor, I trust you will see that honey comb, while, perhaps, chemically the same as beeswax, is not like beeswax in those features which give comb-honey its peculiar virtues.

Beeswax is not soluble in any of the conditions given above, neither does it disintegrate in the mouth like honey-comb. "The proof of the pudding is in chewing the string."

Now, Mr. Editor, as I said in the article referred to: please give us a lift, if for no other purpose than self-preservation, still give us a lift.

People who buy comb-honey do so, not because it is pure, nor because it is honey in the comb, but because the comb heightens its flavor and enhances the pleasure of eating it.

Need I say that *beeswax foundation* will not *heighten* the *pleasure* of eating honey—not *muchly!*

The card of C. O. Perrine, on the cover of the current number, throws some light on this subject, which I trust you will pardon me for referring to, as it may be even more significant than the above facts.

Mr. Perrine does not cherish, it is presumed, a very friendly feeling towards comb-honey producers, neither the producers of extracted, as his letters and articles, previously written, will show. Said honey-producers have taken him as the representative man, and the great head of the "ring honey-adulterators." The cry of adulteration on every hand, has been one of the leading causes, why his and other fancy-jarring-honey establishments have been compelled to run "Kanuc" and other fancy brands of syrups in connection with honey.

In the infant days of honey-jarring, it

sold rapidly at fancy prices, and nothing better was needed. Houses sprang up like magic, and fortune seemed to smile. But from some causes, probably a *Democratic* House, or *unbalanced Congress*, the producers began to clamor, and down went the honey-jarring business.

If parties who have been, or are now, in the jarring-honey trade, have it in their power to prostitute fancy comb-honey, either in boxes or small frames, and so have their revenge, it is not unlikely that it will be done.

There is but one way for the producers to prevent it, and that way is *potent* and all powerful, and of like interest to the producer of extracted, as well as comb-honey. Namely, to raise their own starting comb, and encourage others to do the same. It can be raised with bee labor for less money, and on *long time paper*, and without forwarding money to any parties, however irresponsible, accompanying the order. Let no man fail to inform his neighbor of the danger and expense attending the taking of this *charming bait*, except for the mere cavity of the hive, and for *brood purposes* and *extractor only*; for such purposes, such foundation may pay, but I have my doubts even for that. If the foundations are to be sold for frames and boxes of certain sizes in measurement, why not sell the foundation by the foot, so parties wishing to purchase, can know the expense before writing so many letters and paying so much postage?

The only clue given in the card as to expense, is that there is material enough in the foundations to lengthen out the cells and cap them over. Now that is very fine. How glad the poor *overworked* worker bees will be; no wax to make, nothing to do but preach, doctor, make laws; be the happy middle man, and make money. "How skillfully he builds his *sell*, how skillfully he spreads his wax."

Suppose one pound of foundation to furnish cell-room for twenty pounds of honey, (which is not far from the usual rate), and a Langstroth hive will hold sixty pounds of honey, we now have the amount of foundation necessary for the work, and it weighs three pounds and cost *net* three dollars and sixty cents. The net profit on extracted honey would be about three cents per pound, if sold at ten cents, which is a fair price by the barrel. By this calculation it will be seen that one hundred and twenty pounds of honey could be given the bees for doing the same work—that is for filling the hive with combs. Now what is the result? Three pounds of comb would consume sixty pounds of honey, and there would be sixty pounds left—which would be just enough to fill the combs in the hive with honey, and the colony would be in the best possible condition for winter. *Do figures lie?*

I am very glad if comb foundations, suitable for *breeding* purposes and *extractor*, can be made *cheaper* than the bees can make them, and if so, it is reasonable to presume a large market awaits their production; but for *comb honey* to be sold to *consumers*, I am *decidedly* opposed. Men who buy comb-honey, very fine to look upon, will not fail to find that appearances are often deceptive; and especially will this be true of comb made of beeswax.

If comb honey is thrown on the market, as above represented, the *consumer*, who is an *epicure*, not only in *looks*, but in *fact*, will not allow his *palate* to be *imposed* upon by his eyes the *second* time. He will neither buy the fancy comb or jar honey at all. He will prefer to melt his own *sugar*, and buy his own *molasses*, and *pocket* the difference. The matter of cheapness will be a great desideratum at this time of low prices.

It is an unsolved problem whether such combs, as are advertised, can be used to compete with bee labor, with honey at its present price. *Let us have the price per foot*, so that we can decide for ourselves and take the responsibility.

The bee business has, like other industries, its draw-backs, but it is not likely to be abandoned by those having a *choice location* and experience, even should prices continue to decline.

T. F. BINGHAM.

For the American Bee Journal.

Eccentric.

"Well, well; if there isn't Eccentric, sure as the world! We thought he had gone to the Black Hills, or California, or some golden country;" we hear in imagination, as the above heading greets the reader's gaze. Really, it has been a long time since we sent you greeting, dear old BEE JOURNAL; but it was not because of any lack of interest in your welfare. Many times during the past season, had we intended to sit down and tell you of what we were doing; but the press of business has prevented. But to-day (March 17th, Centennial year,) we have sharpened up one of "Faber's Best," and as the raging storm from the great North West renders out-door labor not particularly inviting, have concluded to pencil a few thoughts for your pages.

The winter, thus far, has been very mild, with little snow; so little, in fact, that a sleigh ride has been a luxury indeed. But we have had rain in great abundance, and winds without end, almost; and to-day the fast-falling snow is driven across the prairies with a fearful velocity. Only a few days since the bees were flying freely and gathering pollen;

the robins were singing, and the frogs croaking; even the agile musquito made music for our ears (and work for our hands), while the soft balmy air and radiant sunshine betokened an early advent of the season of flowers. But alas! for our hopes; to-day has a wintrier aspect than had any of February's. The time cannot be far distant, however, when spring will come to stay, and usher in active operations in the apiary. May it come speedily!

We were much interested in the great commotion which those active fellows over in Michigan created at their convention, held in Kalamazoo, in December last. The cold stream of truth which they poured upon the red-hot prejudices of self-interest and self-aggrandizement made some steam and a little smoke. It really was amusing to see with what alacrity the editor of the *Bee-Keeper's Magazine* donned the garb they had prepared for him; and no less so to witness his frantic gestures and wry grimaces in endeavoring to wear the garment. But it seems to have been too *tight a fit*, as he speedily boiled over with abusive epithets and harsh invectives, showing the spirit of gall and bitterness he was in.

We heartily sympathize with the efforts of the Michigan Association to bring out matters in their true light, and are pleased to note the fact that the kee-keepers of the country are waking up to their true interests. It was only necessary to set the great mass of the bee-keeping community to *thinking*, in order to insure a satisfactory solution of the problem, in our opinion, as we have full confidence in their discretion and good sense.

But we cannot concur in the ground the Michigan Association took in reference to c omb honey, albeit we confess to having believed that the extractor was responsible for the unsatisfactory condition of our American honey markets. But a somewhat careful investigation of this subject has resulted in the following conclusions: It is not for the interest of the apiarist who obtains his surplus with the extractor, to raise comb honey, for many reasons. In the first place, he would have to entirely change his method of management; discard his present appliances for new ones; adopt a system of manipulation with which he was not familiar, and which would require years to master: and finally, perhaps, sell his box honey for a small advance over what the extracted article would command. It is becoming more and more apparent that the difference in price of box and extracted honey will gradually lessen until both shall command *about* the same figures. While we do not question the statements of some of the Michigan bee-keepers that *they* "can obtain as much comb honey in small boxes as with the extractor," we *know* that the *great mass of bee-keepers cannot do it.* There is a science in obtaining box honey, which requires years of study *and* experience to master.

Then it seems there was another fraud among the honey dealers. We had some personal acquaintance with Wm. M. Hoge, *alias* "John Long," when he was a member of the firm known as the "Chicago Honey Co." Of course New York presented a much larger field for his operations. But what were King & Slocum about during all this time, that they did not discover his tricks? Writing up advertisements, we presume, of that "E pluribus unum" bee hive, instead of looking after the interest of bee-keepers.

It was with unfeigned pleasure, Mr. Editor, that we perused your announcement in March number that the good old RELIABLE AMERICAN BEE JOURNAL would continue to be devoted to the interests of the honey producers of the world. We need one journal, surely, to represent our interests, and the AMERICAN will do. With that on our side, and open to us all, we can afford to let the *Magazine* abuse us, and laud its "fixin's for sale;" can afford to let *Gleanings* learn how to wipe dishes, chew gum, and tell about "our universal implements;" yea, and we can afford to let the *World*, through its ancient typography and mutilated English, discourse upon the wonders and attractions of "Orange Culture," "the lands for which we have for sale." Ah, Mr. Editor, "there's tricks in all trades but mine," most assuredly.

In conclusion, lest we might otherwise become the target for the anathemas of the puissant pens of liliputian minds, we will simply say that all the above is from your old friend, ECCENTRIC.

For the American Bee Jonrnal.

Bee-Keepers' Society Organization.

The first meeting of the Lancaster County (Pa.) Bee-Keepers' Society was held on March 13th. A permanent organization was effected by electing Peter S. Reist, of Manheim, President; J. F. Hershey, of Mount Joy, Vice-President; and A. B. Herr, of West Hempfield, Secretary. The following members were present: H. B. Nissley, East Donegal; Elias Hershey, Paradise; J. Kepperling, and A. H. Shock, Conestoga; J. F. Hershey, Mt. Joy; P. S. Reist, Manheim; S. G. Garber, Rapho; A. B. Herr, West Hempfield; Joel Fisher, East Lampeter; and Leonard Fleckenstein, Manor. The above-named gentleman own 309 hives, and represent 1,000 hives as belonging to neighbors who are expected to join the Society at its next meeting. The first subject brought before the society was, "Will bee-keeping pay?"

J. F. Hershey said that bee-keeping

paid him very well, out of the money he had invested in bees, and said that he made 100 per cent. He did not keep bees for honey, but had sold $600 worth of queens during the past year; he also sold some honey, but kept no account.

Messrs. S. G. Garber, Elias Hershey, and Leonard Fleckenstein, spoke in favor of bee raising, and said that they were all well paid for the interest and labor bestowed upon the bees.

Peter S. Reist thought bee-keeping, if understood rightly, would pay better than any other kind of business, if only fifty per cent. would be made on the amount invested, it would be paying very well.

The next question discussed was, "Which is best—the Italian or the black bee?"

Elias Hershey favored the Italian bee, on account of its swarming qualities, and that it could gather more honey than the black bee.

J. F. Hershey also favored the Italian bee; they work better and protect the hive from moth much better than the black bee. He preferred crossed bees for making honey.

Leonard Fleckenstein was very much in favor of the Italian bees, but as regards the gathering of honey, he had a colony of black bees that would gather more than the Italians.

"Do bees injure fruit?" was next discussed.

J. F. Hershey did not believe bees would destroy grapes, unless the grape was already partly destroyed by some other insect; they never touch or harm a sound grape. A great many people blame the bees for injuring grapes, but he thinks it is the wasp that does the mischief. As regards the destruction of apples, he has had as high as fifty swarms in his orchard at a time, and never noticed any destruction or diminution in his crop. His clover crop was greatly benefitted by the presence of bees.

D. H. Lintner had often heard that bees would destroy grapes, but after experimenting, he found that it was not so. He put several bunches of grapes, dipped in sugar syrup, in front of the hive; when he took the grapes away, after the bees had eaten all the syrup off, they were as sound as when he put them there.

A. H. Shock said that the people in his neighborhood were very much opposed to the Italian bee, as they believed it stung their grapes.

Peter S. Reist believed the bees were a great benefit to flowers, as they carried the pollen of one to that of another, thus propagating, as it were, the flowers.

The fourth question,—"How long can brood remain exposed without being covered by the bees, and still be used for queen raising?" was then introduced.

Leonard Fleckenstein opened the discussion on this subject, and said that he had a piece of comb lying exposed for twenty-four hours, in a cool chilly air, from which he raised a prolific queen. He did not know whether the egg was used or not.

J. F. Hershey said that where there are eggs in the comb, they can be of use for raising for a long time. Combs with eggs can be shipped by mail, and kept for five or six days, and then have a young queen hatched out of them. When the brood is over four days old, they cannot raise a queen. Some have been raised in this time, but they are not perfect, and, as a matter of course, are entirely worthless.

The question, "What is the reason that a queen's sting is curved and a worker's sting is straight, and yet hatched from the same kind of an egg?" was proposed by S. G. Garber, who wanted a little information on the subject.

A. B. Herr thought it was the nature of the bee, or the formation of the cell.

J. F. Hershey believed nature had made it so, in order to attack its rivals.

"Why is a fertile worker produced, and how?" was the next question brought before the meeting.

D. H. Lintner supposed it was produced in order to take the place of a queen. It is not quite as large as a queen, and looks like an ordinary worker bee. It lays eggs the same as a queen, sometimes two and three in a cell, but they never amount to anything. He could not tell how the fertile worker was formed. They would not hatch, and when a queen is put in with them, they will kill it. The only remedy for this is to transfer the worker to another hive.

J. F. Hershey said that the fertile worker never raises any worker bees; they can raise nothing but drones, and these are perfectly worthless.

Leonard Fleckenstein compared the bee to a human being, and said it did the best it could.

"Which is the better plan, natural or artificial swarming?" was the last question brought before the meeting.

J. F. Hershey preferred the artificial way of swarming, on account of a great deal of time being saved. When a natural swarm leaves the hive, it takes seventeen days before the young queen is in good condition, and the hive is got in working order. In an artificial swarm, all this time can be saved by placing a queen in the hive at once. In the artificial way, you can swarm three times when you can only swarm twice in the natural way. Before swarming in the artificial way, the bees should have as much honey in the hive as they have when they go into winter quarters.

Leonard Fleckenstein and Jacob Kepperling, also favored artificial swarming, and cited several experiments which they

had undertaken. They believed a week or ten days were gained by artificial swarming.

Peter S. Reist was of the opinion that natural swarming was the best, that is, if you have a prolific queen in the right place. He had a great many bees, but if it were not for artificial swarming, he would not have near so many. Artificial swarming should be thoroughly understood before it is attempted; in this way, thousands of bees have been wantonly destroyed.

A motion was made and carried that a committee of three be appointed by the chair to prepare practical questions for discussion at the next meeting, which is to take place on the second Monday in May, at the same place. The chair then appointed J. F. Hershey, A. B. Herr, and Leonard Fleckenstein, as the committee. There being no further business, the society adjourned.

ADAM B. HERR, Sec'y.

For the American Bee Journal.

How to Winter.

I should like to suggest to progressive apiarists. Much has been said, and many have missed the mark in what they have said on this subject. Make a room with double walls, nearly frost proof. Near it build another small house for heating or cooling the bee-house. It should be tight with a large heating stove and pair of blacksmith's bellows, with a pipe running into the bottom of the bee-house, driven by a small wind-mill. With this you can furnish them with a good current of warm air, or if too warm, with cool air from ice, supplied by the wind mill. With this you can regulate the atmosphere to suit, and the bees will not have to live all winter in the same foul air, and get the dysentery in the spring.

Don't make a green-house out of your heating house, as that may set the queen to laying. As you pump in the air, fragrant with blossoms, she may think it spring, and the bees might swarm as soon as they are put out, and be lost, as there would be no honey for them to subsist on.

J. M. BENNETT.

Bremer County, Iowa.

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Captain Hetherington's Address.

In common with the apiarian readers of the A. B. J. generally, we read the above-mentioned address in the April number with much interest. Having had the pleasure of meeting the "gallant Capting" on two occasions at "Bee Conventions," when we talked apiculture until the "wee sma' hours ayont the twal," and enjoyed some good social and public opportunities in the company of our fellow bee-keepers, some curiosity was aroused to see how our genial friend would acquit himself in the Presidential chair. We had high expectations, and they have not been disappointed.

We thank the Captain in the name of the Canadian bee-keeping fraternity, (perhaps it would be presumptuous to speak in the name of the whole Continent of America) for his eloquent tribute to the memory of the late Moses Quinby. He has paid a high and glowing tribute at once to his talents and virtues. It was well deserved. While we need not say in despair, "we ne'er shall look upon his like again," it is no libel on humanity to say that such men are, "like angels' visits, few and far between." We warmly second the suggestion as to the compilation and publication of a memoir and remains. Perhaps the MSS. of "Advanced Bee-Culture" is in such shape that it can be got ready for the press in a style that would do the author no discredit. If so we hope it may see the light.

In view of Mr. Quinby's great, and to a large extent, disinterested labors—and the felt indebtedness of bee-keepers to him—we submit whether it does not behoove us to testify our gratitude and respect in some substantial and enduring form. Would not a monument to his memory, erected by the bee-keepers of America, be a graceful expression? If every bee-keeper would contribute but a dollar, it would suffice to rear such a monument as would grace the humble cemetery where his remains have found a resting-place, and bear witness to the bereaved family, and public generally, of our high appreciation of his usefulness and worth. We make this as a proposal to our brother and sister apiarists, and hope it may be entertained and carried into effect. If resolved on, we will do our part in seeing that Canada gives its quota toward so deserving an object.

Anything said by Captain Hetherington on practical bee-keeping deserves respectful consideration, but we think with the editor of the A. B. J., that he has wandered a little from the record in his criticisms on the "bee journals." We know that it was our aim while editing the A. B. J., to be impartial and truthful in all our representations of bee-keeping. We own to a feeling of enthusiasm in regard to apiculture, but still think it never tempted us into the use of *coleur de rose* when speaking of the business. On the one hand, it was necessary in some cases to defend bee-keeping from the uncalled-for and ungenerous flings of journalists who were constantly insinuating that "bee-men were sharpers, and that apiculture was a delusion and a snare." On the other hand, it was needful to tone down the exaggerated anticipations of sanguine beginners. Back numbers and volumes of the A. B. J. furnish proof that both duties were in some degree faithfully performed.

Although the captain frankly owns that he began bee-keeping under a delusion, we are inclined to think he has done, on the whole, pretty well at it, and we should have been glad if he had given a fuller account of his personal experience. This is necessary, "that the subject be fairly presented." The inference from

what is stated would be that it is a delusion to go into bee-keeping as a remunerative industry, though it is a fine calling for oxygenating the blood, giving a good appetite, and keeping off dyspepsia, with its attendant "blues." If it is all this, and if, besides, it will yield a comfortable subsistence, why, then, it is by no means a bad calling. We don't suppose that the Captain has made a fortune out of it any more than the lamented Quinby; but if he has found a competence in it, as we think he has, why then, it is just as well to say so much in its praise.

Too much stress cannot be laid on the advice not to go into bee-keeping unless you are "adapted to it." A man wants "a call to bee-keeping," if he is to succeed at it; just as truly as a man wants "a call to the ministry," in order to be effective in that vocation.

There is an idea abroad just now, that, whereas at first, bee-men eulogized the business in order to get buyers for patent hives and a legion of useless "fixins"; now there is a fear entertained lest too many should go into it and so the business be "overdone." We don't imagine that Captain Hetherington is influenced by any such motive, because he knows quite well that successful bee-keeping, on a large scale, requires peculiar qualifications such as few persons are likely to develop. For ourselves, we play second fiddle to no one, as an amateur bee-keeper, but we know as well as any one can tell us that we are not "adapted" to bee-keeping as a calling. We can do better at preaching and editing, although neither of these can be called a money-making business. For shallow purses, threadbare coats, patched clothing, and "shocking bad hats," commend us to the ministerial and editorial fraternities. But if any one undertakes to run down either of these professions, we are prepared to go for him with a very sharp-pointed pen, dipped in ink with rather more than the usual proportion of gall in it. W. F. C.

☞ On the 16th C. O. Perrine went to the South on a tour of inspection. He intends visiting *many* of the bee-keepers in Louisiana, Florida, Tennessee, Kentucky and Ohio, before returning.

☞ At a recent meeting of a county bee-keepers' society, the secretary thereof made the charge that he had purchased of a well-known dealer, for pure Italian, a queen which proved to be a very poor hybrid, if not a pure black. This matter occupies a large portion of space in the report of proceedings of the society, published in the local paper. The accused party asks that we publish the report in full, and sends us a full reply. This would occupy several pages, and as it comes at a late hour, when the pages are mostly made up for this number, we publish neither charge nor reply, not having room therefor.

Even had we the room, we doubt the wisdom of the publication. The readers of the JOURNAL are not interested in the details of a personal quarrel, and if we begin it, the wrangle may run through several numbers. The AMERICAN BEE JOURNAL has always deservedly borne the reputation of being fair and impartial, and the very freedom of its columns has perhaps been, more than anything else the subject of criticism. A highly esteemed correspondent says "I have always liked the JOURNAL, though I think too many unkind flings are admitted. They are mischievous and do not aid our art." We believe this is a fair expression of the opinion of others.

In the present instance, a man with an enviable reputation as an upright dealer is said to have sold to another dealer, as pure, a queen nearly, if not quite, black. We certainly cannot believe he would be so idiotic as to commit so bare-faced a fraud, even if he had no principle whatever, for the loss of reputation thereby would be more than the price of many queens, and a very few such transactions would entirely stop his gains from sales.

We can readily believe that a man may buy a pure queen and afterward suppose himself to be imposed upon. A few years ago we ordered an Italian queen of a man whom we believed to be honest. To make sure of her kindly reception we put her in a small colony that we had purposely kept queenless for a week or more, having cut out all queen cells so we might feel sure, not only that they had no queen, but that they had no means of raising

one. Within three or four weeks we examined the maturing brood and *it was black!* As we had taken the necessary precautions, were we not justified in asking redress? But on examination we found that the queen had changed to a very dark color and her wings which had been clipped had grown out to full length! Of course this queen was in the hive when the Italian was introduced and had probably been coaxed into the hive by the bees when out on her bridal excursion from a neighboring hive.

We have just been trying one of Novice's extractors, that is, running it without any thing in it, and it certainly runs *very* easily. It seems as if it would not be hard to get up speed enough to throw out honey, brood, and perhaps, bee-bread! After being accustomed to one without gearing, we feel quite sure we should, with the Novice machine, throw out some brood before getting the hang of it. The gearing is admirably arranged so that the crank lifts off, being in one solid piece with the larger cog wheel. This makes it very easy to clean or oil the cogs. There is no wood about it, and the whole thing is so light that it can easily be carried with one hand. It appears to us, it would be troublesome to clean, as we see no way of taking the frame work out of the can without taking out four screws and these would soon be getting rusty or loose. Only Novice would have thought of the night-cap arrangement of cotton cloth for covering it.

We have before us the new work of Prof. A. J. Cook, entitled "Manual of the Apiary," containing 60 pages of useful matter, with 20 illustrations. As to the mechanical execution of the work, it has the appearance of a government pamphlet, being a little more than 6x9 inches, and contains much waste space. A smaller page and thicker book would have been far more convenient. Of course at so low a price it has a paper cover. The type is clear. Many of the cuts are neither beautiful nor true. The beginner, who has not one of the larger works, will obtain in this, at a trifling expense, the pith of what he wants.

Artificial Comb-Foundation.

The *situation* at present with regard to COMB-FOUNDATION is about as follows:

"Novice" comes into the field again, and says in May *Gleanings:*

"I am now having another machine made, as Mr. Perrine makes no progress as yet towards filling orders, even at his prices; ours will be 75 cents and $1.00 as before, but I beg no one will send in money until we announce being ready to fill orders. If, after the machine is done, our laws will sustain Mr. Perrine, you and I will have to submit until his patent runs out; we can do it pleasantly if obliged to, can we not?"

Mr. A. J. King announces in the May *B. K. Magazine*, that he will furnish machines for $100 each. He says:

"A considerable quantity of cheap materials, perfectly harmless, and acceptable to the bees, is mixed with the wax, and to a person owning a machine the complete foundation-combs ought not to cost him above 40 cents per lb. The materials added to the bees-wax give it a stiffness and tenacity very desirable in the breeding department of the hive, and this is the only place where artificial combs (except thin strips for guides) should ever be used."

He furthermore offers to give his patent for the benefit of the bee-keeping public, providing Mr. Perrine will do the same.

If anything but *pure bees wax* is used in the production of foundations, we are strongly of the opinion that the whole thing will fall into deserved disrepute, and damage the sale of comb honey.

Meantime, Mr. Perrine has not receded from his position, that no one else has a right to make the foundations. If this claim is sustained, then the only question will be as to the profit of furnishing the bees with foundations at Mr. Perrine's prices; if the claim does not hold, then the question will be whether to buy a machine at $100 or the product at 75 cents per lb. If it is true that the comb-foundations (if they are to be much used, we hope a shorter name will be invented) should only be used in the breeding department and they can be made for 40 cents per lb; then it follows that only those who want about 300 lbs will find it profitable to pay $100 for a machine if they can buy the foundations from Novice at 75 cents per lb.

Some English bee-keepers use the sheets of wax without any cell impressions on them and seem to think them about as good. We have used these sheets and any one can make them, as we think there is no patent on them. Take any vessel that is most convenient and melt beeswax in it, putting in *first*, water enough to make the vessel tolerably full after the beeswax is in. Of course, it would do just as well to have all bees wax and no water, but a very little wax can be used if water is added. Dip into this a piece of common window glass, and after taking it out of the wax, dip it into a vessel of cold water to cool it and you will have a thin sheet of wax on each side of the glass. If wanted thicker, dip again in the wax. We think, however, we should much prefer the pressed sheets.

To fasten in the frame, a little melted wax or rosin may be dropped on as a kind of solder, or a hot iron may be run along the edge of the wax where it touches the frame.

If much is to be fastened into frames, the plan given by Novice is good. Make a board just large enough to fit easily into the frame, and nail stops around it so that the foundations will be just at the right place to be fastened into the frame.

If the foundations cannot be used for surplus honey, then it seems to us, their chief value will be gone.

W. W. Lynch asks, *how to preserve combs, not in use from the moth.* They may be put in a closet or box which closes so tight that no moth can find an entrance. They may be hung in an attic allowing a space of one or two inches between the combs. We have kept them standing all the year in a hive out doors just as the frames would be hung for the bees to occupy; but this might not be so well in all localities.

A. G. Hill did not say, in his article on Artificial Swarms, whether he used woolen or cotton cloth for curtains. If cotton, would it not be a good plan to make them double with a thickness of newspaper between? C. T. Smith.

I use one thickness of woolen or two of cotton cloth. The paper may be an improvement, but I have never tried it.

A. G. Hill.

Mr. F. W. Chapman has sent one of his extractors to this office, and the cut on the advertising pages is a very exact representation, except that the corner posts of the machine are neater in appearance than those in the cut. The wooden frame work about the can adds unnecessarily to the weight, but it has the advantage of being always mounted, ready for work. For every revolution made by the crank the comb makes four revolutions.

Not Hay, but Honey.—The first line on page 137 of May number, R. Miller's article on Melilot Clover, should read: "I got 6,000 pounds of honey," not hay. It will be well to make that correction on your copies, for it is an important change of words.

☞The first article in this number from the pen of the Rev. W. F. Clarke, was intended for the May number, but was received too late.

Mr. J. S. Coe writes us that he proposes to have the ground about his house apiary, planted with honey-producing plants; and asks that bee-keepers send by mail specimens of the honey-producing plants of their various localities, directed "J. S. Coe, House Apiary, Exhibition Grounds, Philadelphia, Pa."

On page 117 of last issue, D. H. Ogden's address is wrong. It should be "Wooster, Wayne County, Ohio." Those who have written him to Mass., will do well to write to the postmaster and order the letters forwarded to Wooster, Ohio.

We had a pleasant call last month from the Rev. A. Salisbury, of Camargo, Ills., who is extensively engaged in aparian pursuits.

On April 25th, G. W. Maryatt, of Milton, Wis., lost his residence by fire. In his cellar were 40 swarms of bees, and all were consumed.

Mr. C. C. Vaughan, of Columbia, Tenn., has been added to the firm of Staples & Andrews, of the Columbia Apiary, in that place. One month ago they had 175 full colonies, and were *then* having natural swarms.

FRIEND NEWMAN.—Believing that I am as successful as anybody in the introduction and sale of machine-extracted honey, and as the ready sale of the article is just as important as the production of it, allow me to add to the exhibition in your office, two of my cases of honey jars. They are the style in which I have been selling honey to the trade for years, and it is the best merchantable shape in which I have seen honey put up, so far.

I object to putting a piece of comb into a jar of "pure machine-extracted honey," because it is, in my estimation, only pleasing to the eye of the ignorant, and because it can only be calculated to convince the purchaser that the article is *pure* honey. Every honey producer knows that machine-extracted honey is the *only* pure honey possible, while we have wax and other little impurities with the choicest kind of comb honey. Choice machine-extracted honey will recommend itself; and a piece of comb in a jar is just as insufficient to convince a sensible consummer of the purity as the crumbling of dry comb on top of a jar. Besides, after granulation has taken place, a jar of machine-extracted honey, with a piece of comb in it, is unsightly and unsalable.

We should have, as near as possible, a uniform shape in which to offer our honey to the trade. To our neighbors we may sell it in any shape to suit them, of course. But we are in the habit of seeing canned peaches put up in tin cans, and other fruits in some certain packages. Similar it should be with honey. Round jars can be furnished for about $1.00 less per gross than square jars. But I prefer the latter because everybody uses round jars for almost everything, and because square jars have a neater appearance and pack better.

Permit me also to place on your table one of my knives. There are no more practical uncapping knives made, and they are *cheap*. CHAS. F. MUTH.

We have taken pleasure in examining these articles. The one pound *honey jars* look very much like the ordinary square pickle bottles. On one side is blown in the glass the figure of an old-fashioned straw hive or skep, and the words "1 POUND PURE HONEY." The remaining three sides are plain to admit such labels as the producer may wish to put on them. We do not remember before to have seen a label of directions like the one Mr. Muth puts on the jars of honey he sells. Something of the kind should be on every jar of honey sold. The label reads as follows:

"All pure honey will crystalize, [of course he means granulate—ED.] especially if exposed to the cold. Putting the jar in hot water, will bring the candied honey to its fluid state without the least injury to the quality. In order to save the glass the corks should be loosened and the water heated gradually."

In this connection we also give the printed instructions Mr. C. O. Perrine sends out with his goods:

"To restore candied honey to its original liquid condition it must be heated.

"Nearly all pure honey will form into granules in cold climates in time. Some honey so forms sooner than others, and in some seasons honey will so form much more than in others, owing to atmospheric conditions aside from absence of heat.

"When I have any jars of candied honey I take the covers off, to guard against bursting with confined heat, and place them over a steaming kettle of water, setting them on strips of wood and covering them over with a cloth, so as to keep the heat in. If comb honey, care should be taken that they do not heat too quick or get too warm, as a very little excess of heat above that required to melt the honey, will melt the comb (wax) too, as well as the liquid honey about the comb, which, when melted, will float on the honey.

"If the jars be set in an oven the same result will follow, placing strips of wood under them to keep the heat from breaking the glass.

"To those having them to sell, I will say if they will warm them before they are candied through, a very little heat will do."

Mr. Muth's 50-cent uncapping knife is a rough looking affair, but the blade being of good steel it will doubtless do good work. Some would rather give $1.00 for a nicely finished knife, while others would rather save 50 cents and have something less tasteful in appearance.

The bee veil of Mr. Muth is made of thin, white material, all but the part before the face which is black and very fine, so as not to impede the vision. It comes down to the waist at front and back, making a very thorough protection; in fact too much of a protection for an old bee-keeper, who will want a veil ready to be thrown down quickly over the face as occasion may require. For the timid who want to feel sure that no bee can get near them, this veil is just the thing.

☞ Don't write anything on the *face* of a postal card but the address. We very often have to pay 5 cents for a postal card sent us because the sender has put the *date* on the face of it instead of the other side. Let all *remember* this.

☞ In a private letter, one of our most prominent bee-keepers remarks that our April number was "the best bee-paper" he "ever saw, Wagner's administration *not* excepted." Our determination is that each future number shall be "like unto it."

Secure a Choice Queen.

We now renew our offer to send a choice tested Italian queen as a premium, to any one who will send us *five* subscribers to the AMERICAN BEE JOURNAL with $10,00. This premium, which gives a $5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

Barnes' Foot-Power Saws for Hive Making.

A. I. Root, editor of *Gleanings in Bee Culture*, Medina, Ohio, says, "This machine is one of the brightest illustrations of genuine Yankee ingenuity it has ever been our fortune to meet, and the simplicity and fewness of its parts are really surprising. With the new and novel foot power, the only wheel there is about the machine, except the saw, can be instantly set humming like a top, and one of the prettiest little saws can be attached to it in little less than a second of time, yet the whole is so extremely simple that even a child can do nice true work at once. At our first attempt we sawed one foot of ⅞ in. pine in six seconds. The facilities this machine offers for rapid work, and the way in which labor is saved in its construction, are to us simply marvelous. We thought we did a bright thing when we devised our new extractor gearing, but we will yield the palm to the Barnes Saws." See advertisement.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

WE will give $2.00 for the following numbers of THE AMERICAN BEE JOURNAL: No. 1 of Vol. 2; Nos. 7, 8, 9 and 11 of Vol. 3. Any one having them to spare will confer a favor by sending them to this office, at once.

COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

I. N. BLANCHARD has removed from Wisconsin to Ottawa Co., Kansas, and intends to make a specialty of honey producing.

F. W. CHAPMAN, of Morrison, Ill., has one of his Extractors in A 27, the northwest corner of the agricultural building of the Centennial Exhibition at Philadelphia.

☞ The Rev. J. E. Rockwood, of Logan, Iowa, writes us that the *Washington Press* item published in the May number is a *canard*. He has interviewed the Rev. H. H. Kellogg, and learned that he bought the farm three or four years ago—and that the price was *not* $8,000—and that he has had no communication with Mrs. T. this winter.

OUR ALBUM.—Quite a number have sent on their photographs during the past month, and we have a large Album started with them. Let the others be sent in, that the collection may be large and interesting.

☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

☞ We have a new lot of fresh melilot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb. extra, if sent by mail.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send postpaid a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

WHEN your time runs out, if you do not wish to have The AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

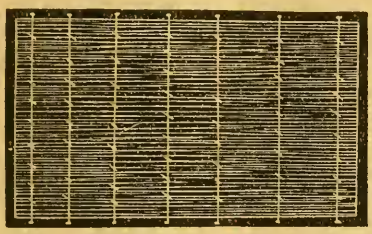
THE Los Angeles (Cal.) HERALD devotes a column to the interests of apiculture, styling it *Bee-Keeper's Column*. It is edited by N. Levering. May it do much good.

Correspondence.

For the American Bee Journal.

My Straw Cover.

Three years ago I succeeded in constructing a fine straw cover for my hives, which answers well for all purposes, and gives better satisfaction than any other I have seen. They are made as follows: Take strips, 1½ inches wide, and make a frame to fit the size of the hive; in the side pieces I make ¼ inch holes, 3 inches apart, commencing ½ inch from the ends; from the hole to the inside, I grub out a little, to sink the canes I stretch across this frame. Now, fill up finally with clean straw, and draw the cane over the upper side, which I afterwards bind off with waxed twine. This cover is as smooth and solid as a honey board, and I put it on early enough to allow the bees to fasten it with propolis. The following illustration will show what I mean. This



cover may cost a little more than a mat, but will hold out any wooden honey board, and pays four times its cost every year, for bees breed much faster under it, in spring, and winter better, because they keep dry and warm, without any current of air through the hive. I have over fifty of these covers in use now, and cannot say too much in their praise.

Jefferson, Wis. W. Wolff.

For the American Bee Journal.

Success and Failure.

Having just looked over the April number of the Journal, I see friend Heddon trying to show that there is no profit in bee culture, especially with the extractor; and friend Bingham seems to be close upon his track. Burch agrees with him so far as comb-honey in glass boxes are concerned. I differ with them both, so far as the comb foundations are concerned, and agree with Bingham that the bees should build their own foundations if to be eaten. I do not want the comb foundations on my stomach, nor on that of my customers. My experience, generally, accords with that of friend Dadant, page 107.

The above four men, all my friends, are all honest, and it is not my purpose to dispute what they say, but merely to give my own experience.

I have never had anything for sale but as advertised, "Pure Italian queens and full colonies," nor have I been a purchaser of hives and fixtures, bee-feeders, etc. Here I would state that I forgot to say at the start, I consider myself successful, and it is my aim to show how I succeeded, even in a poor location as this is.

I commenced with the Langstroth hive, trading bees for hives, thus making it a rule to go slow and make my bees pay their own way as they went,—thus, "Pay as you go." I also improved my bees until I had, or thought I had, the best in the U. S., but never have depended upon bees a single season for a living. I carry on the saddle and harness business, and my apiary is right back of my shop, so I can just step out of the back door and walk in the apiary any time. It was bad health and want of out-door exercise that caused me to start an apiary. I will here say I started it with two *gums*, before I had ever heard of a book being written on bees. I started in 1857. I well knew, when I started it, if the bee business was a sure business, it could not be so in such a locality as this, where we only have about one good season in every five. My rule has been never to keep over 80 stands, and to reduce them by sale every spring to about 36 or 40, my wintering being a success every winter. No disease ever known in my apiary.

I have generally sold comb-honey at 30 and 35 cents, until I, like Dadant, created a demand for the extracted. I can now sell three pounds of extracted to one of comb, even at the same price, 20 or 25 cents, never less than 20 yet. My market is at home. Before the Extractor, I had to beg a market in the cities. I sent C. O. Perrine two crates of comb-honey, in caps, some years ago, and will here state, to his credit, he *dealt fairly* with me.

If novices with the Extractor would wait until the combs are fully sealed over, they would get an article of thick, rich honey, cheap at 25 cents any where. This is the article I give my customers, and it has at last made the sale of my cap honey dull.

On account of the sale of bees I have had every spring, I have never had an opportunity to give my bees a fair run for honey gathering, as yet. They being reduced to about 40 every spring, had to be increased to 80, and raise about 200, or more, queens besides, and to do this in this locality, I have never got over about (2,000) two thousand pounds besides.

The great damage to the bee business is so many novices pitching in with a patent hive, fixtures, farm-rights, etc., expecting to make money on a pack of fools who will buy their chattels. The

best way to deal with such agents is to show them the gate out of the yard, and that quickly, too. The best hive that ever was made, or can be made, is the plainest frame hive a man can make at a low cost. I prefer the Langstroth, as it is the plainest and easiest to use I know of.

It would take up too much space to go into detail of my management of bees: but I will say, anyone, managing skilfully and economically, as I have done, can make bees pay. Pitching in at the start, with capital, buying farm-rights, and every useless appendage for bee culture, is a sure failure. Also following such leaders as N. C. Mitchell is a flat failure. R. M. ARGO.

Lowell, Ky., April 3, 1876.

P. S. Will friend Bingham say that the business of selling queens and full colonies is not honest if the dealer is honest and deals honestly with all his customers? I know all are not so.

For the American Bee Journal.

Introduction or Early History of Bees and Honey.

The Natural History of the honey-bee has been the marvel of all ages from the time of Adam the greatest naturalist the world ever produced, who well knew her history when he named the bee "Deborah," in the Hebrew, which means "she that speaks," and the bees speech is both as sweet and as wise as that of her namesake Deborah, whose wondrous song of victory is written in the Book of Judges. Adam knew that the bee was able to speak and teach proud man, with all his boasted intellect, many a wise saying if he was only willing to learn at her school, and so he gave her that name. This was 4004, B. C.

The history of bees is found written in hieroglyphics in the Pyramids of Egypt, and on ancient tombs, long before writing was discovered, and this proves that the natural history and management of bees occupied the attention of man at the earliest period of which we have any record. Surrounded by a boundless variety of living creatures, he would naturally be led to notice their habits and economy; and no part of the world of insects, would be more likely to engage his consideration than the honey-bee. Honey would in all probability, constitute one of his earliest luxuries; and, as he advanced in civilization, he would, as a matter of course, avail himself of the industry of its collectors, by bringing them as much as possible within his reach; and by this means he would take an important step towards an acquaintance with entomology. But the progress made by our earliest progenitors, in this or any other science, is involved in the obscurity and uncertainty appertaining to the infancy of society and the difficulty of writing its history in hieroglyphics.

The first indication of attention to the bee's natural history is contained in the Old Testament, where it is mentioned in connection with honey and wax in no less than twenty of the books. In Genesis 43; 11, the patriarch Jacob, in giving directions to his Sons on going down into Egypt a second time, tells them to "take of the best fruits of the land," with them —literally that which was praised the most or "the song of the land" and among others, he names "a little honey." The things enumerated, as we are informed, grew well during a drought; and as a famine now prevailed, would be more highly appreciated in Egypt. Besides we are led to the belief that honey was an article of commerce previous to this time—Genesis 37; 25, and inferences drawn from Homer and Herodotus at a later date. The whole of the twenty Books conclusively prove, the care that was taken of the bees, and how highly their produce was appreciated; and in Solomon's Song 4; 11, Christ's love for the Church is beautifully expressed; "Thy lips O *my* spouse, drop as the honeycomb; honey and milk *are* under thy tongue; and the smell of thy garments *is* like the smell of Lebanon."

The records of its first progression are however entirely lost, and no regular history of this science exists prior to the days of Aristotle, 330 years before Christ; who under the auspices and through the munificence of his pupil Alexander the Great, was called to prosecute with the greatest advantage, for the time in which he lived, his experiments and inquiries into every department of natural history. Alexander felt so strong a desire to promote this object, that he placed at the disposal of Aristotle a very large sum of money, and in his Asiatic expedition employed above a thousand persons, in collecting and transmitting to him specimens from every part of the animal kingdom. Aristotle is therefore to be regarded as having laid the first foundation of our knowledge of that kingdom. He must likewise have derived great advantages from the discoveries and observations of preceding writers, to whose works he would probably have easy access. No individual naturalist could without such assistance, have produced so valuable and extensive a work on natural science as that which Aristotle has bequeathed to posterity. And though the opinions of himself and his contemporaries have been transmitted to us in an imperfect manner, and abound in errors, still he and his illustrous pupil Theophrastus, who succeeded him in the Lyceum, may be regarded as the only philosophical naturalists of antiquity, whose labors and discoveries present us with any portion of satisfactory knowledge.

Prior to their time we read of Aristomachus of Soli in Cilicia, who spent fifty eight years in the contemplation of bees; and of Philiscus the Thasian who spent so great portion of his time in the woods, in pursuit of the same object, as to have acquired the name of Agrius. Both of these great bee-masters left behind them in writing, the results of their experiments and observations; but the original works have been long buried in oblivion. However small the contribution of knowledge which we have derived from these ancient worthies, they must have greatly aided the progress of their favorite science, and are at all events evidences of the zeal with which the study of bees was prosecuted in their day.

About three hundred years after the time at which Aristotle wrote, his observations on the honey-bee were "embellished, and invested with a species of divinity, by the matchless pen of Virgil," in his fourth Georgic, 35 B. C; and it excites feelings of regret, that poetry, which for its beauty and elegance is so universally admired, should be the vehicle of opinions that are founded in error.

WM. CARR.

Newton Heath Apiary, near Manchester, England.

For the American Bee Journal.

Disease of the Bee.

I am very much interested in the AMERICAN BEE JOURNAL, and, in fact, anything pertaining to the bee. I wish to state my experience and my belief as to what causes the bee disease. I think that cold is the cause. I have not seen anything of it this winter, because it has been generally warm. But years before, I have noticed that those in coldest parts of my cellar, where the thermometer would mark 28° or 30°, would be sure to have the disease; while those sitting in the center, and directly under my kitchen, would be dry and entirely free from it. *I* would advise *all* to throw away straw mats, bed quilts, comforters, and every thing of that sort, for I have tried them, and find an inch board better than all. Just loosen the board from the frames when you set the bees in the cellar, and that is ventilation enough, if your cellar is at the right temperature, from 44° or 54°.

I think bee-keepers go too much on foolish patents. Such things all cost money, besides being in the way a good part of the time. I use an oyster can, opened on the side, and find it just as good as any patent feeder I ever used. I put pine splints in for floats to keep the bees out of the honey or syrup, and they will take out every particle of it.

One of my neighbors was troubled with bee disease, but it was as cold as 30° in his cellar. *Cold causes the disease.* He bought his bees of me, and they were in as good condition as my own when he put them in his cellar. I set my bees all out by the 10th of March, and they had a good fly; they are in splendid condition; they cover from six to twelve frames.

From 100 swarms put in the cellar last fall, I found four good swarms queenless, (they were very late queens, and had only *just* commenced laying when I put them in) and one nucleus, smothered through my own carelessness.

My bees are all in the cellar at the present time of writing, and the weather bids fair for them to remain there two or three weeks yet. MRS. D. M. HALL.

Rock Co., Wis., April 2d, 1876.

For the American Bee Journal.

Salicylic Acid for the Cure of Foul Brood.

Since the publication of my note on Salicylic acid, as a cure for foul brood, in the January number of the JOURNAL, I have received a report of the meeting of the National Bee-keepers' Society of Germany, held at Strasburg, which contains a very long report of Mr. Hilbert on the above subject. Mr. H. stands high in the estimation of German apiarists, and as his report gives a better and fuller account of the manner of using the acid, I have condensed his report, and give the same for the benefit of those that wish to try the remedy. Mr. H. has cured twenty-five stands by this method, and his patron, the Count Kolourat, known through his importation and trial of Cyprian and Egyptian bees, has in like manner cured sixty-five stands. The directions of Mr. H. are as follows:

Dissolve the crystalized acid in eight times its weight of alcohol. Four times the amount would do to dissolve the acid, but then it would flake when mixed with water. More than eight times as much alcohol would be injurious to the unsealed brood. This solution is called the alcoholic solution.

For the disinfection of combs, frames, and hives, use but thirty-two drops of the alcoholic solution for *one ounce* of water; mix well by shaking. This water should not be too warm, nor less than 60 degrees Fahrenheit, else the solution will flake.

For the disinfection of hives and comb, use an atomizer. Keep the brood warm; disinfect the hive first, and hang in the brood as soon as disinfected. Reduce the hive to the smallest limits; remove surplus honey after disinfecting it with the atomizer. Before doing this, however, all sealed foul broody cells must first be treated with a mixture of *equal parts* of the alcoholic solution and warm water.

For this, use a piece of wood of the shape and size of a match. Dip this in the last-mentioned solution, and pierce the foul broody cell to its bottom, immersing the piece of wood anew for each cell. For the unsealed brood, sprinkling with the atomizer and the weaker solution is sufficient. Every other evening feed about one-third pint of honey, to which are added from 30 to 50 drops of the alcoholic solution, according to size of hive.

The sprinkling should take place once a week, if not oftener. Mr. H.'s hives required from six to eight applications before he considered them cured. It is bad policy to take away the queen or to cage her, as it would weaken the swarm too much. In subsequent examinations one will find dead larvæ, though they may not exhibit the signs of foul brood. They are evidences of insufficient or faulty feeding and nursing. Mr. H. thinks that the constant exposure to the foul vapors of the hive proves deleterious to the queen and the bees generally. The young bees especially that act as nurses and at the same time remove the decaying matter, communicate the poison to the brood they feed. And as the foul brood fungus may perhaps generate and increase within the body of the living bee, as the trichina does in man, it is well to regenerate the brood by the addition of young bees from healthy hives. When all the above measures have been conscientiously applied, it nevertheless happens that foul brood will continue to appear. In such cases it may safely be presumed that the ovaries of the queen have become infected. In twenty-five hives treated by Mr. Hilbert, he found three such queens. Instead, therefore, of destroying all queens, it might be well to try them in nuclei hives with clean combs and healthy bees. Mr. H. summarizes the matter in the following words: "The absolute cure of foul brood may be effected by a proper application of salicylic acid, by the addition of healthy nurse bees, and by a change of queens, if necessary."

Mr. H. estimates one ounce of the acid sufficient to cure from five to seven stands. Care must be taken to sprinkle *all* parts.

Respectfully, JOHN P. BRUCK.

Los Angeles, Cal., April 7th, 1876.

For the American Bee Journal.

Extracted Honey.

In reference to extracted honey and the discussion thereon, I wish to bring forward a little of Mr. Heddon's past experience, in proof of my arguments.

The reader will remember that we hold that extracted honey does sell and does pay, and that bee-culture also pays, while Mr. Heddon denies all this.

Since Mr. H. seems to doubt our own statements in proof of this, we will give him some of his own statements.

We have gathered Mr. H.'s past writings, and find that his honey crops were as follows:

Year.	Stocks in Spring.	lbs. Honey.	Stocks in Fall.
(1) 1870	6	523	22
(2) 1872	14	3000	not said.
(3) 1873	16	4200	35
(4) 1874	48	8500	55

Until 1874, from his own reports, (5) Mr. H. had never sold his honey less than 28 to 30 cts. In *Gleanings*, Sept., 1874, (6) he said: "As our honey sells at good prices, we have decided to feed sugar syrup this fall for wintering."

November, 1874, (4) he said: "Started a honey house and met with such good success that we shall handle 20,000 lbs. before next season. Bought the crop of several bee-keepers," etc., etc.

In August, 1874, (7) his opinion was that he could expect yet 2,000 lbs. of extracted honey, or else 150 lbs. comb, meaning that he could just as easily get 2,000 lbs. extracted, as 150 lbs. comb honey. This is entirely in contradiction with his opinion on the matter in A. B. J. for March, 1876, where he says, in substance: "Persons who think that extracted honey at 10 cents, could be produced as profitably as comb honey at 25 cents, are ignorant of the manipulation of small boxes." From his own words, as above, he could produce over thirteen times as much extracted honey as comb honey, that is, if he sold extracted honey at 10 cents, he should sell comb honey at $1.30.

All at once, however, Mr. H. found that honey was a drug on the market, and in September, 1875, (8) he advertised three barrels of extracted honey for sale. Now, Mr. H., one question.

If in 1874 you could sell 20,000 lbs. of honey, how is it that in 1875 you could not get rid of just three barrels? Have your customers left you? Or have honey dealers sold adulterated honey to your dealers and beat you out? If that is the case, why not sell your honey cheaper than they can afford to sell theirs, since you say, A. B. J., 1876, p. 30, that bee-keepers can raise the pure article cheaper than they can manufacture it.

My friend, D. D. Palmer, of Eliza, Ill., said in December No. of *Gleanings*, and in answer to H.'s complaint, that he, Palmer, had made $535.00 out of fifty-five colonies in one season, and thus tried to prove to Mr. H. that bee-culture does pay.

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(1) A. B. J., Vol. VI., p. 118.
(2) " " Vol. VIII., p. 251.
(3) " " Vol. X., p. 154.
(4) *Gleanings*, Vol. II., p. 143.
(5) " Vol. II., p. 9.
(6) " Vol. II., p. 109.
(7) " Vol. II., p. 101.
(8) " Vol. III., p. 128.

Friend Palmer, you can't prove anything! Mr. H. has made (9) in one season (1873) $800.00 from 16 colonies of bees, or $50.00 per colony, by his own report, and still complains that bee culture will not pay.

One more word. Mr. H. says that extracted honey is inferior to cane syrup. We don't know how his honey is, but we emphatically affirm that we have never seen *pure* extracted honey that we did not prefer to any syrup, and we know that 99–100 of our readers will agree with us in this. We say that granulated honey is the only extracted honey which is merchantable wherever buyers are acquainted with honey.

We say that honey does not need to be all capped over to be extracted. We usually take it when about one-half capped over and we *never* had honey to turn sour, although we have now on hand about fifty lbs. from 1873, which we kept for an experiment, and that honey is as good as ever. Of course it is granulated.

Mr. Heddon has answered our arguments on the usefulness of the extractor, and on the saving for the bees whenever it is used, only by telling us that he did not say that thin watery stores were the cause of the mortality of bees in 1869. True, he only said that he could see no other cause but that. In this he is somewhat of our opinion. That may not have been the only cause, but it was one of the *main causes.*

Be it understood that we entertain no hard feeling against Mr. H., but that we only wish to prove that extracted honey pays, and sells when pure and granulated, and that bee-culture does pay, while Mr. H. tries to prove the negative on these questions. C. P. DADANT.

For the American Bee Journal.

Wintering and Springing.

Those of us who winter our bees on their summer stands, find the chief difficulty with which we have to contend is to winter over a sufficient number of bees in each stock, so that they may be strong enough to successfully contend with our damp spring.

The main point, we conceive, is not whether we can save each colony, so that we are not reduced in the number of stocks we had in the previous season, but that each individual stand shall be healthy and populous that it may be able early to take advantage of pasturage fitted for their use; who that has had any experience in the matter, does not know the vexation and labor connected with bringing up a weak colony in the spring or summer, to a proper condition to carry it through the following winter?

Now that we have succeeded for many winters past to our full satisfaction in wintering our bees, it may be proper here to give a brief description of the plan adopted. For some ten years we have practiced upon the principle of upward ventilation, (in *every instance* we have failed where we discarded this principle); our chief object has been after the removal of the honey boards (we use the Langstroth hive) to ascertain what was the proper material to place over top of the frames; after testing various substances, such as leaves, bran, corn cobs, cut straw, etc., (we never tried straw mats) we have finally adopted the following system: We first remove two combs from each hive; we then cut winter passages in every comb which is not already cut, then take a woolen quilt, blanket, or similar covering, and place over top and down the sides of the combs; on top of this we place a frame four inches deep, upon which is tacked a woolen cloth, making a chaff-box which we fill with *wheat chaff*, and place this box directly on top of the quilt, then pack sides (of double hives) and cap with wheat chaff, and the hive is ready for the winter. I forgot to state that I open and close the entrance blocks as the weather may change from cold to warm and *vice versa*. I prefer wheat chaff to anything I have ever used unless it may be a number of plies of coarse paper; the wheat chaff is also better than oats or other chaffs which lie too close and retain too much moisture, which should pass off, and therefore keep the bees both warm and dry.

The more serious matter of springing, remains yet to be looked after (and in our location, 42°, is after all the great obstacle to successful bee-keeping.) Last fall was no exception to many previous ones, in the fact that we had several stocks which proved obstinate and refused to breed late in the season; it made no difference how lavishly we fed them, either on honey, sugar syrup, or candy, we could not induce breeding, a result which we labored industriously to promote, as we are of those who believe that in order to successful *out-door* wintering, *we must have young bees.* And then again, we committed the too common error among apiarists, that in order to keep our full complement of stocks through the winter, we kept some that were too scarce of bees to keep a proper degree of warmth in the hive; and another error, we were very anxious to save two valuable queens, which we saw no other way of doing. We think the lesson served us dearly for *we lost both.* As is always the case, we can now see the remedy after it is too late to meet it. Where there are a number of stocks in the apiary we will always find some that have more brood and bees than we care to put up in a single stock for the winter. Now, how easy it would have been to have exchanged combs of brood

(9) *Gleanings*, Vol., II., p. 46.

with our stocks which refused our well meant endeavors to induce them to breed; by this course we could have accomplished the very result we so much desired; and yet, another and perhaps a better alternative presents itself, we mean the old and reliable, and I may add, the always safe remedy of doubling up, or uniting stocks; when the choice was whether we should lose two choice queens or preserve one of them, one would think it would have been quickly taken, but we have no doubt there are very many like us, who have found the most reliable axiom in bee-keeping is the hardest to learn, or at least to practice upon, we mean that which teaches to "keep nothing but strong stocks." It has been written, and re-written over and over again, but although we are willing to acknowledge its force and truthfulness, we are loth to put it into practice. Let us now resolve again, that we will do so even should we double-up all the stocks in our apiary, and then we feel confident that we shall have as little fear of successfully springing our bees, as we now do of taking them safely through the winter.

WM. S. BARCLAY.

Beaver, Pa., April 4th, 1876.

For the American Bee Journal.

King Birds Once More.

As the time is fast coming when the king birds will make their appearance, I thought I would say a few words of their real character. It is the worst enemy the bee has (the mice excepted only). Mr. Quinby says, on p. 229, that it is guilty of only taking drones. This is a mistake. I have shot them, and on examining their crops, I have found bee stings. Drones have no stings. If bee men will take pains to inform themselves, they will find this assertion true. Mr. Q. further says: "You will see it only in the afternoon of a clear day." I have shot three king birds on one morning last August before six o'clock. If any one will watch, they will see them come, as soon as the bees begin to fly, and keep busy at their depredations through the day. It is the real bee enemy. Last spring I bought of the Rev. A. Salisbury seven tested Italian queens. They were pronounced by all who saw them to be beautiful. They are my pets, and I intend to protect them, if I can, against all enemies. They made large increase last summer; they now have from 30 to 40 lbs of honey, and are strong with young bees. I would not like to be called an enemy of the birds. I love them. The king birds are the only ones I would have destroyed. I always contend that birds are of great value, and their beautiful notes are charming at any time, but king birds I condemn.

Peoria Co., Ill. JAMES JAGGARD.

For the American Bee Journal.

Bee Culture in Texas.

I have at last found time to write an article in regard to my discoveries about bee culture in Texas. In the northeast portion of the state, there is a section of the country along Red river, that is known as the rafts, where the bees do very well. There are a great many wild bees there. The "rafts" are heavily wooded with cypress trees, and a variety of undergrowth, which is green all winter. I think bees will do as well there, as any where in the United States, California not excepted. There was no day, that was clear, while I was there (in December,) but what the bees were out. I could not get an accurate account in regard to increase, or surplus amount of honey, obtained yearly, as there is no one keeping bees on the improved plan in this part of the state, but everyone says, that keeps bees, that they make "*lots*" of honey. One man, that has been living there for twenty years, says he often gets forty gallons of honey from one tree. He has fifty stands of bees, mostly in round gums, three or four feet high, and as large around as a barrel. He says he has had six or eight swarms from *one* in a season. I called to see another "bee" man but he was not at home. I asked his wife how much honey they got to the hive; she said she did not know—as they never weighed or measured anything—said they had thirty hives of bees, and when they took the honey they "robbed some, killed some of the heaviest, and saved some of the lightest over;" said they "let the neighbors have a good deal—sent a right smart chance to town, and had a good many buckets and tubs full left." That is the nearest I could come to the average of each hive. If anyone desires to make bee culture his chief business, the "Red river country" is the place.

The low-lands are rich and fertile, but not so healthy, while the up-lands are heavily timbered with pine, but the soil is sandy and not very productive.

In the north central part of the state, near Dallas and Collin counties, it is a rich farming country. My principal stopping place was near Dallas—Dallas city is situated on Trinity river. The bees were in good condition there in January, but hardly anyone using patent hives. This part of the country possesses all the honey producing trees and flowers, that we have in Iowa, with the exception of the linden. They do not cultivate any thing for bee pasture, as there is an abundance of wild flowers—on which the bees work—from six to eight months in the year Also, have very heavy honey dews at times which, of course, the bees turn to good

account. There is a weed grows here spontaneously all over the prairies, which the bees gather from; it commences blooming in August, and continues blooming till late in the fall; it looks very much like flax. The inhabitants call it broom-weed. I called on a gentleman at McKinney, in Collin county, who has a small apiary. His wife invited me out to look at the bees. I opened several hives and found them in good condition and making merry music over the flowers in door-yard. Almond trees in full bloom 20th of January. This gentleman uses the American hive. Bees mostly Italians; said that he commenced in spring of '75 with sixty-five stands, and before the year closed, he had doubled his stock, besides taking 5000 lbs. of box-honey, and 1000 lbs. of extracted honey.

The honey here is equal in quality to any I have ever seen, and the flavor is unusually good; the extracted is quite thick, some of it candied. Have a market for all they can sell right at home; 25c. for box-honey per lb., and 15c. for extracted per lb.; $1.00 per gallon for squeezed or strained honey.

In regard to country, I say it is very rich—can raise almost anything that will grow anywhere in the United States. Health good, and society will compare favorably with any new country. Land cheap. Any one that likes a warm climate could certainly suit himself in Texas. H. G. HENDRIX.

Des Moines, Ia , April 6th, 1876.

For the American Bee Journal.

Those 'Bugs'.

It is with pleasure we observe the 'brotherhood' (who live by picking 'bugs') peck (dutch word for sting) each other, while their *own* 'bugs' are laid away for future use.

Bro. Jim 'pecks' some 'greeny' and Bro. C. P., 'pecks' Bro. Jim because he can't find the same 'greeny' to 'peck'. Bro. T. F., 'pecks' Bro. P., and others, while Bro. N., tries to lug off Bro. J. S.'s bug shanty in spite of his cackling. And another Bro. (D.) endeavors to *Staple* a *Pike* (D. A.) to keep *his* 'bug' from *humming* too loud for his *own* bug to be heard. (Can't you let her *hum*, Bro. D.?) Surely she is a *curiosity* if she can produce all sorts of eggs and 'things,' and *fur*thermore, *fur* brings a good price now. (AMERICAN BEE JOURNAL, page 109.) At any rate, if no one else wishes to invest it will pay Novice to do so, that he may have the pleasure of informing his readers what a nice 'bug' he has pinned. *Are* the white 'bugs' better than the yellow ones, and the yellow ones *so much* better than the black that we used to be so well satisfied with? Surely, the *Grim*-m one ought to know "having wintered 1400," and why does he advertise "hybrids 50 cents less (only)? And who would not rather have *pure* blacks than hybrids, by 50 cents? We have tried hybrids little ends, and found them as hard and *pointed* as any, and much more often ready to 'peck' by 50 cent's worth.

Is every new theory so much better than the old ones, that the owner thereof should '*peck*' every other but his own, instead of giving facts and figures to demonstrate the case. Do not the 'old heads' (who are so patriotic and disinterested) take more pains to write something 'taking' than to 'climinate' the very information (which they are full of) that the beginners and others are looking and longing for?

J. O. S.

[We think most of our readers will be better suited if the stings are *all* picked out of articles sent in, but we were not a little amused to find that in this very article, J. O. S., had left in a little sting. We picked it out.—ED.]

For the American Bee Journal.

Moth Trap.

I have nineteen swarms of Italians, all in good order. I have been troubled with the moth miller, some. In 1873, I found, while sitting near the window and reading by lamplight, that the glass would be literally covered with millers, gnats, mosquitoes, etc. I took a lighted wide-awake lamp, and placed it out doors, near the house, on the ground, near several pans of sour milk and dish water, and I soon had a lot of millers, and other insects.

In a few evenings not a miller was to be found about the apiary. My hives are not over 100 feet from the house. That lamp was the best moth trap I ever saw.

On September 7th, 1875, I suffered a shock of paralysis, disabling me. I can neither stand nor walk, having no use of my legs. I often look out of the window and wish I could be out among my bees once more.

I got thirty-three swarms from six, and 200 lbs of box honey, in the summer of 1875. MARTIN M. MALLERY.

Hillsdale, Mich.

[Those who have Italians, pay very little attention to the bee moth. Years ago we considered it quite important during the fore part of summer to examine the hives every morning; but with strong Italian stocks, we do not find it worth while to pay any attention whatever to moths or worms.—ED.]

For the American Bee Journal.

The Bee Moth.

Prof. C. E. Bessey, in the *Progressive Farmer*, gives the following history and description of this insect. The illustrations are from Prof. Riley of Missouri.

ITS HISTORY.

The bee moth, or "moth miller," (*Galleria cereana*), is a native of the eastern continent, having found its way to this country probably with the earliest swarms of bees which were brought from Europe. It is mentioned by the ancients as one of the pests of the apiary, and no doubt it has existed as long as has the bee itself. It is found, however, in greater abundance in certain places than in others. Neighbour, in "The Apiary," says that "it is not so troublesome in England as it is in America and some parts of Germany." Huber, in his work on Bees, does not mention the Moth, so it is fair to presume that at that time it did not exist in that portion of the continent, *i. e.* in Switzerland. All American writers mention it, as well they may, for scarcely in any portion of the country are bees exempt from its ravages. The venerable Quinby wrote in 1865, in his "Bee-Keeping," as follows: "If we combine into one phalanx all the depredators yet named, and compare their ability for mischief, with that of the wax moth, we shall find their powers of destruction but feeble in comparison." Harris, in his well-known treatise, calls it a pernicious insect, and Langstroth notices it at length in "The Honey Bee."

EGGS.

These they attempt to lay *in* the hive, but if prevented from doing this, they deposit them as near the opening as possible, so that the worms which hatch from them may find but little difficulty in effecting an entrance. Dr. Donhoff says; "The eggs of the bee moth are entirely round, and very small, being only about the eighth of a line, (*i. e.* one ninety-sixth of an inch) in diameter."* In a short time the eggs hatch into

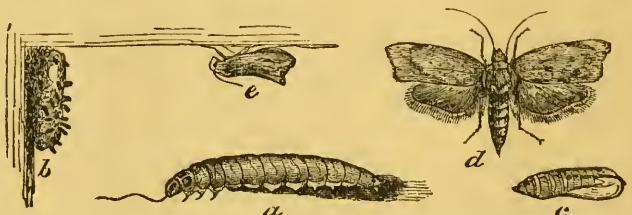
THE WORMS.

These at first are minute, but as they begin eating wax immediately, they soon grow larger, and in about three weeks, according to Harris, they attain their full size (*a* in the figure). They are provided with a silk gland, from which they spin the material of their galleries, and as they gnaw their way through the combs in various directions, they always build up their silken defenses. When of full size they seek some sheltered place in the hive, and spin their

COCOONS.

In this state they remain for two weeks, and then change to the perfect or winged form.

It will thus be seen that more than one brood may appear during the season, and in fact it is generally spoken of as double brooded, the first brood appearing in May and the second in August, but as moths are to be found at any time between these two dates, it is more than likely that three generations are frequently produced.



a, the full-grown worm; *b*, the cocoon; *c*, the pupa, or chrysalis; *d*, the female moth, with wings expanded; *e*, side view of the male moth, with wings at rest.

THE MOTH OR WINGED INSECT.

The insect which lays the eggs, is a moth, or miller, of the family *Pyralidæ*, *i. e.* the snout moths. The female, (*d* in the figure,) is of a grayish color, and with a spread of wing of a little more than one inch. The male (*e*) resembles his mate, but is somewhat smaller. When at rest, the wings are folded over the back, like the sides of a house roof.

The moths appear from early spring to some time after mid-summer, and during this time the females are engaged in laying their

REMEDIES.

The best protection a colony can have is strength. Strong colonies that cover all their comb, are the best protection. Those that are weak must be looked after, and the comb examined. A queenless colony, if allowed to remain so, becomes an easy prey to the worms. Quinby says: "whenever our stocks have become reduced, from over-swarming, or other causes, the

*A personal examination of the eggs, made with the microscope, shows them to be oval, with measurments 1-48 inch long, 1-58 inch wide; color white; surface minutely reticulated.

ravages of worms are to be expected."

If, however, the worms have gained a foot hold in the hive, or if from weakness, there is danger of such being the case, then the old and reliable remedy of hand-picking must be resorted to. All the authorities unite in recommending frequent examinations of the combs, and some suggest the use of a thin stick, pointed with iron, for killing the worms or moths which may be found between the combs, or in other places difficult of access. Such examinations should be made frequently throughout the season, and especially in the latter part of summer, and in the fall months, when the worms of the last brood are spinning themselves up.

All authorities unite in saying that no contrivances intended to make the hives moth-proof are of any avail whatever. It is impossible to arrange the openings to the hive so as to certainly keep out the moths, although of course a small opening is better than a large one, because in the former case the bees can guard it more thoroughly. Hives made so as to close automatically at night-fall, and those which are closed by the weight of fowls on their roosts may as well be discarded at once, and the bee-keeper who invests his money in one is simply throwing it away.

For the American Bee Journal.

Extracted Honey. (Sugar Syrup.)

I cannot refrain from replyiny to one or two articles which have lately appeared in The Journal.

B. Y. T., of Henry County, Ind., says: "I see * * * there was a poor honey harvest in nearly all parts of the country. Still the markets are better supplied with extracted honey (sugar syrup) than in any previous year, etc., etc." Now, that his assertion is incorrect, I will show in three ways. Now, mark you carefully, he says extracted (sugar syrup). Bee-keepers do not *extract* sugar syrup. They need not feed it to the bees to extract it. Again, mere white sugar syrup is too costly, (brown cannot be used). Is he so ignorant that he does not know that glucose is the article used to adulterate with? Can he point to any bee-keeper who adulterates his own raising of honey before it goes to market? There are some five or six honey dealers who adulterate with glucose; then, that is not "sugar syrup," nor half so good. His whole charge is directed against bee-keepers, and honey dealers are not on the list, *only* those who extract are subjects for Orange Judd & Co. Worse still, no honest man will use an extractor at all.

Secondly. Did B. Y. T. stop to enquire how much old honey there was on the market? How much poplar, fruit-bloom, buckwheat, that is too dark for sale in jars, or almost any way, only in combs (it sells in the comb). Yes, and when it is in the comb, it is "*pure honey*," but extracted, it is sugar syrup. Calling *all extracted honey*, sugar syrup, and all who extract, humbugs, is an insult to bee-keepers that no honest man will give, who is fully posted in the matter.

We would infer that extracted honey is the only adulterated honey. I heard from two good men, that a man not a hundred miles from Lawrenceburg, Indiana, sold, during fall and winter of 1874, at retail, at 18 cents per lb., 1,800 lbs. of sugar syrup "in the comb." He offered it to a honey dealer, but was informed of its quality. What will B. Y. T. say to this? I shipped 10 barrels of "*extracted*," and there was not an ounce of "sugar syrup" or glucose either, in it. Mr. Charles F. Muth can speak of its quality. Extracted honey is the best for the consumer; he can see and taste for himself, and not buy comb-honey, like a "pig in a poke." Wax is indigestible and injurious, and should not be eaten. As to preaching against extractors, it will be about as ineffectual as turning a river back through its beaten channel; if not *allowed* any other use, we will keep them to make room for the queen, and feed our humbug honey to the negroes, who would smack their lips at "*sugar syrup*." Let bee-keepers sell direct to consumers, and there will not be any more fault found with extracted honey. I have a way of extracting honey, and have the dark and light kept separate; return the dark to the bees for winter, and sell the fine.

B. Y. T. wants the columns taken up with directions for making box-honey. Perhaps the Indiana man (who sold the 1,800 lbs. of "sugar syrup" in the comb,) would, for a paltry sum, give Mr. B. Y. T. a recipe for it.

Mr. James Heddon seems to have created a stir among the hives. He asks why "C. O. Perrine replies that he does not want to buy honey at any price." Well, glucose is plenty and cheap. There is no use of selling to such men, as there are a plenty of others to buy. There is no room to complain when we can get from 10 to 12½ cents for good extracted honey, that is equal to from 21 to 25 for box, and far less expense, danger, too, and expense of shipping. I have tried both, box and extracted. When you can give them small pieces of comb to induce them to build, it requires 1 lb of box to equal 2½ of extracted; without any comb, 1 of box to 3 of extracted; if you take out frames and insert boxes in their stead, 1 pound of box to 2 of extracted. When close to market, boxes may do; but when a distance to ship and honey is fair, then extracted.

Mr. Heddon says, when apiarists learn

to get as much comb-honey as extracted, there will be but little extracted honey taken. I say so, too; but, then, no man of intelligence can expect any such a result. I will not call Mr. H. what *The Bee World* did, but it would require a wonderful manipulation and double amount of comb, and men to manage, so as to dispense with the extractor. To say that extracted will not sell to experienced purchasers, will not bear proof. I agree most heartily that honey should be *well "ripened"* before it is extracted; and just here is where honey gets its damage, and it has greatly impaired the extracted honey trade. Some men have lauded bee-keeping to the skies; but it is no use now running to extremes the other way. You have gone to such an extreme in making money out of bees, that men of ordinary talent lost sight of you; and now, please, don't come back to your honest starting point and disgrace your beginning. Ah! friends, you have done too much to induce men to bee-keeping, but now you find you have said too much, as a class, to sell your wares, and now your customers are in your footsteps, and like yourselves, looking for the golden prize (a fortune), but now you turn and view. "Oh! there's too many coming now, and see the multitudes about to start." Oh! listen to the *wail* of your leaders of "patent hives, honey extractors, comb guides, boundless depths of honey, *money in the apiary, big lots of honey for sale*," etc., etc. Another tune is now played to the words of "*Old Hundred.*" Away with the extractor, it is not needed; our bees, after being wintered, and even up to June, after long feeding, nine-tenths have died, we *can't sell* a small lot of box-honey, and, oh! not a drop of extracted wanted at 9 cents, and I get only 200 lbs. of it per hive. Oh! stop in time. A German-sized farm (four acres) rather than 100 hives of bees. B-u-t w-e w-i-l-l meet next May, and see what effect the winter will have. Now, such is a true and condensed view of the proceedings in Ohio and Michigan for five years. There is a man in this State who had his bees manipulated for him just before, and in the beginning of the honey harvest, he extracted an unusually large quantity, but the honey was *quite green* and should have been one-fourth less. The amount was 48 barrels. But when I saw the account last, in the *Rural New Yorker*, it had raised to 149 barrels, and 20 barrels on the way to France; but none of it passed New York, or brought over $1.11 per gallon there. He had 149 colonies in July, 119 in November, and *less* than a hundred now, yet he informs us that they are doing finely, and that he has not lost any. He does all he can to keep men from entering the business, and endeavors to drive away what are there, and by means not according to apostolic mode, or the golden rule. The truth is, there are no fortunes made, and I am sure, none lost. The income on the investment is a fair one indeed, but it will not do for the inexperienced to depend on it, for they have seven chances to fail to one to succeed.

I am anxious for the day to come when honey will be put on an equality with other sweets, sugar and syrups, that adulterations will cease. Put extracted 8 to 10 cents, comb 14 to 18 cents, then honey will be consumed instead of sugar in many preparations, and then there will not be any more danger of over-stocking the market with honey than sugar. This will be a good profit for bee-keepers and always a ready sale. Give me a guarantee of 8 cents per lb. for well ripened, fully fair, extracted, for three years to come, and they can have, (Heddon) can have the balance. I dare any one to give bond in the sum of $10,000.00 for fulfillment of the contract. I will wager 10 barrels of honey that I can sell 150 barrels per annum of extracted honey and net 14 3-5 cents per lb. Will you take me on either?

Point Coupee, La. SIX.

Depression in Apiculture.

The following paper on this subject was read before the N. E. Bee-keepers' Society, at their late meeting at Utica:

When Mr. Langstroth wrote his "Hive and Honey Bee," more than twenty years ago, the first sentence stated that "Practical bee-keeping in this country is in a very depressed condition." If the above quotation was applicable to the condition of American bee-culture twenty years ago, when bees wintered without loss, when the forests were dripping with nectar and large yields of honey were the rule, and when the labor of the apiarist was amply remunerated by the ready sale at a good price of all the honey he could produce, it is doubly so now when the "bee disease" depopulates our hives in winter, when the denudation of our timber lands has so modified our climate as to render the secretion of nectar uncertain, and the low price and dull sale of what honey is obtained diminishes the profits of the apiary. Without entering into the details of the cause of the present depressed condition of bee-culture in our country, it may not be altogether unprofitable to consider the problem of how we may secure our surplus honey in order to realize the most money therefor. We all remember the excitement created in America by the introduction and use of the honey extractor, and the oft repeated assertion that this machine was the long sought desideratum that would render bee-culture an occupa-

tion at once pleasant and profitable. The results accruing to any method are the safest and surest test of its utility; and we would ask, have they verified the prediction referred to above? Is not bee-keeping more hazardous and less remunerative to-day as a pursuit than at any time within the last twenty-five years?

It is not necessary to enumerate the evil consequences which have attended the use of the honey extractor on an extensive scale in the production of surplus honey, as they must be patent to all. The vast amounts of raw, unripened extracted honey, together with the sugar and glucose that is sold for honey, having nearly ruined the sale of the liquid article and lessened the price of all honey, there remains but one alternative that will give us any permanent relief; viz., to secure our surplus in the comb in such a manner that it will command a ready sale at a fair price. To secure this end it must be stored in neat and attractive packages, holding from two and one-half to four pounds, gross weight. The glass box, weighing two and a half pounds, we have found to be much the most profitable, since we have been able to secure just as many pounds of honey, as by raising the larger sized packages. When it shall become generally known that just as many pounds of comb honey can be obtained in any season, in small glass boxes, as can be secured in liquid form with an extractor, it seems to us that our honey extractors will go out of general use. We are often asked this question: "Is not an extractor a necessary adjunct in an apiary, when run to box honey?" We can conceive of no possible use for it, except to empty combs from hives in which the bees have died in winter. One hundred swarms that are run to extracted honey, will keep an aplarist busy for four months of the year to produce the honey, and six more to sell it; while three times that number can be run to the little boxes with less labor in the production, and not more than one-sixth the labor is required for marketing it. Such at least is our own experience, and we have tested both systems pretty thoroughly. To insure this most desirable result, the shallow frame of not more than eight and one-half inches in depth, the small hive 1500 (or less) cubic inches capacity, and prolific Italian queens, are indispensable requisites.

The depression certainly has induced us to study and investigate its causes and cure, to scan more closely the basis of our past efforts and the fundamental principles of our present system. And more than all, it has enabled us to comprehend one simple fact hitherto entirely overlooked, that honey production is the foundation and ultimate end of all bee-keeping. Realizing the importance of this fact to some extent, the Michigan Bee-keepers' Association devoted a portion of their recent annual session at Kalamazoo, to the consideration of this subject. The great cry has been, "every body should keep bees because there is a mine of wealth in it, and little capital and less labor is required to obtain it than in any other pursuit." True, most of these statements are made by parties who are interested in swelling the ranks of agriculturists, hoping they would become patrons of their wares—"apiarian supplies." The result is that hundreds and thousands of pounds of honey is begging for a purchaser to-day, at a price below the cost of producing it. Now the position we take in this matter of roping new recruits into the business is simply this: give a fair and candid statement in regard to our present circumstances and future prospects; tell the world that our bees die in winter; that we secure a limited supply of surplus honey quite as often as we do a bountiful yield; that honey is fast getting to be an unsalable article; that it requires pluck, perseverence, great energy and skill, and no small amount of capital to make bee-keeping even a moderate success, and having told the plain truth leave every person to choose for himself. HERBERT A. BURCH.

For the American Bee Journal.

Distance of Combs from Centre to Centre.

As there seem to be various opinions on this subject, I will give the result of my experience and observations. I once saw the question asked in the *Bee Keeper's Magazine*, "What is the exact distance required from centre to centre of combs?" The answer was 1 7-16 in. I then supposed that there must be a uniform distance that bees would build their combs in a box, hive or tree, or any other place where they were allowed to superintend their own business, and that any deviation from that rule would intefere with their prosperity; and yet I wondered how a bee keeper could be so exact as to adjust the combs to the exact 1-16 of an inch every time they were taken out and replaced, or put into another hive, without using a rule to measure them every time. I knew this was not done, and yet I knew there were many successful apiarists. Some writers still advocate the same distance of 1 7-16 in. A. Benedict wrote an article in the AMERICAN BEE JOURNAL for November 1875, in which he stated: "In building combs bees make them a certain distance apart and they should be kept frame to frame just as the bees construct them." Now if this gentleman has guide bars in his frames, and will put a set of frames into a hive at various distances apart, not going

to extremes, and set the hive level and put a swarm of bees into it, he will find they will *not* build their combs a *certain* distance apart, but will build them just where the *frames* are placed.

When I first noticed the theory of a uniform and exact distance, it was a matter of much interest to me to know whether it was absolutely essential or not; and to satisfy myself I improved the first opportunity I had, to measure the combs in a box-hive, and found to my gratification there was a variation of at least one half inch; and since that I have measured a number of box-hives and find a variation of from 1¼ to 2 inches or more, measuring from base to base of combs. This explodes the *theory* with *me* of a uniform distance from centre to centre of combs; or a uniform thickness of store combs. As there is a uniform space between store combs, the variation must be in the thickness of them; and as the lower part of the same combs are used for breeding and brood combs are of a uniform *thickness*, the variation must of course be in the *space* between the combs. I use twelve combs in an 18 inch hive and do not pretend to adjust them to the exact 1-16 of an inch every time I replace them, and find no trouble in keeping strong stocks and getting a large increase of stocks and a large yield of surplus honey. Where is the key to the uniform distance from centre to centre of combs, since bee instinct fails to explain it? S. K. MARSH.

Palo, Mich.

AN ADDRESS

READ BEFORE THE SECOND SEMI-ANNUAL SESSION OF THE MICH. BEE-KEEPERS' ASSOCIATION, AT KALAMAZOO, MAY 6th, BY T. F. BINGHAM.

In introducing my subject, reference should be had to the great and growing interest felt in bee-culture. It is met with on all sides—from the honest farmer of sixty years, whose stolid, even life, opens only to the rich perfume of his well tilled fields, or the poetic disquisitions and syren tongue of that *noble middle* man, who in recounting the joys and glowing accomplishments of the honest farmer around whom honor, independence and rural greatness stand like cherubim—quietly introduces the *horse pitch fork* and the various *bee journals* and the *patent bee books* — on whose glowing pages in letters of fire stand these *immortal words*: "Entered according to act of Congress in the southern district of the state of New York, in the year of our Lord, 1874." I should not be pardoned if in this recital of Patent things, around which fame and fortune cluster like moths around a bee-hive—if I didn't mention that MUCHLY abused necessity—that "patent bee hive."

Neither does the interest stop here! That compactly built and most ancient bee keeper, and dealer in Italian queens and bee keepers' supplies — (enclose stamp for circular). Ex-president of the Northeastern Bee Keepers' Association, Mr. M. Quinby, stated before that honored body that bee culture should be taught in the Agricultural Colleges; and further to the glory of our state and institutions, he said Michigan would be central and well adapted to such training as this sweet scented industry doth most require. We owe this distinguished compliment, I presume, to the able paper from Prof. Cook read at said convention. We won't find fault with anyone; but we might be pardoned for asking why *this body* of whom Prof. Cook is a part, could not have had so great and valuable a paper—which allow me to say—(Prof. Cook is not here I believe) is the most valuable contribution made to bee-culture for many years, and our *convention* should have had the *honor* of it!

Now gentleman—I guess there are no ladies here—after this elaborate introduction, who among you could fail to anticipate my subject? And echo answers—anticipated!

However far-sighted you may all be—and bee keepers have always been like spiritual mediums, chock-full of visions—I will give my subject a name:

THE REQUISITES OF A SUCCESSFUL BEE KEEPER.

I have interrogated the historic bee-keeper. The man whose cheeks have glowed and rounded, whose frame has filled out with the perfumed sweetness of forty summers. Yea, and I have interrogated him———

What a halo of glory! He stands on time as on a *pedestal*. He moves in the traditions of his fathers. Bee-keeping rests upon him like a mantle. It has come down to him in true apostolic succession. We look up—he is there, on either hand—and he is before us! We extend our vision backward across the boundary of experimental bee-keeping—and behold he is there! A strange mystery encompasses him. His snowy head, his look of wisdom; we look, we venerate him! Like other bee-keepers, however, he talks freely, recounts bee-hunting exploits, and lives over again his ancient pleasures.

He follows down the innovations and encroachments of the patent bee books and the patent bee hives, with their network of slats and painted hulls, on which, as if to cheat oblivion of its certain prey, stands the name of the man who, year after year, and month after month, watched by night and by day the robber and the moth, and the devastations of winter, and all the calamaties of bee-life, and who now, by copyright or patent, can tell how

to double the profits of the apiary, etc.; or furnish bee-keepers' supplies—"*Please send stamp for circular.*"

Of books he has no need; his bees are rich in stores and limitless in numbers. He surveys them like a monarch, and feels that they *adore* him.

He hears their pleasant note, and breathes the incense of a hundred blooming fields. His heart is full of gratitude and his head chock-full of pride.

Pride—yes, pride! He is proud and great—his subjects are legion—he rules as if by Divine right.

Who shall question his authority? Whence came the subtle art?

He alone can tell:—

His grandfather had that rare gift, the divination of water and the precious metals. His father that more than art, the gift of *second sight!* While he, majestic in his pride, rejoices that he is the seventh son. Then what must one be and what must one really know to keep bees? It takes a peculiar kind of sense, or extra sense—or something which common people don't possess.

Bee craft belongs with second-sight and water divinations, and the seventh son. It is a kind of knowledge that cannot be acquired. It transcends logic. It is independent of education. It is a gift. A man must be born to it.

For the American Bee Journal.

Who is to Blame?

Not many miles from this place a very pious old gentleman is selling patent right territory in a certain bee hive which is a side, end, and top opener, with various nails and wires to hold the frame in certain supposed desired positions. As near as I can learn, the pious old gent has sold nearly $4,000 worth of territory to different persons, besides very many of these every-side opening hives. Probably there never was such a favorable time as just *now* to sell *any* kind of an apiarian humbug. Why is this so? Because too many of us have put only the bright side of the question out, and more than all, because only till recently in this country has apiculture been adopted as a SPECIALTY, and many farmers and bee-owners generally, are disposed to think that they are as capable of producing large yields of honey as the specialist, and when they are reassured that they *may*, "by just purchasing one of these quincuplexal bee palaces" of course they "draw their weasel skins" and "shell out," thereby expecting to make money out of bees, like their neighbor, Mr. A., (who does nothing, and thinks of nothing else,) besides reaping the same profit from their vegetables, grain, fruit, stock, etc., as before. While these parties are meeting with this disappointment and loss, they are at the same time dragging down those who are struggling to "get on" in the business.

In May, B. K. *Magazine*, a writer cites us to the time when honey sold for 12½ cents per gallon, while brown sugar sold at 25 cents per lb. This proves what I have many times said in convention, that we must look the matter square in the face and recognize the fact, that cane sugar is in every way vastly superior to honey, except for sauce. Not a great deal of honey will be required to overstock the market for the last named purpose. Our only hope is that some plague will annually decimate the numbers of colonies of bees as fast as they increase in summer. If all bees would winter well, as many desire, in the near future every rod square in America would contain a colony of bees, and then couldn't we sell "Peter Funk," hives, "yaller" queens and "sich" though? I do not object to the making and vending of all kinds of needful apiarian supplies, but let those do it who are not only situated where they can offer goods cheapest, but who have proven by their success as honey producers, that they know *what is needful* and what is not. After all, perhaps no one is more to blame for the fictitious condition of apicultural affairs than ourselves.

What reader of this article does not know that every man who has helped pile up this $4,000 above referred to, has just thrown away his money? Yea, even worse, his time and attention, while the fever is having its run. JAS. HEDDON.

Dowagiac, Mich., May 9, 1876.

For the American Bee Journal.

Buzz-Saws.

I have had enough experience with buzz-saws to know what we want. I will give my experience, feeling confident it will be the means of saving much useless expense. I had been using a one-horse power and found it was too unsteady; the motion would run down, so I would have to quit sawing for a few seconds.

Last fall, I concluded to try the "V. M." gearing, made by the Combined Power Co., New York. They claimed it had leverage, run very easy, etc., but I soon found it was a humbug. The fact is, leverage cannot be obtained on a vertical cog wheel, or any other. A man cannot stand it to run their machine an hour without sawing. To do good work, I had to hitch two horses to the power. I bought the No. 2 "V. M." *gear*, price $75.00; forty turns of crank gave my saw 3,000 revolutions. Finding this too fast, even for a horse, I took off three-fourths the gearing, so I could run the saw from 700 to 1,000 revolutions per

minute; then I found I could run a great deal easier. Next, I put a 27 lb. balance on the saw-shaft. This made it much better still, and right here I will say, that no one should undertake to make hives without using two balance-wheels; the one on the saw shaft should be 20 to 24 inches in diameter, and weigh 25 to 40 lbs., the other about 100 lbs., and three feet in diameter. It may be used for the pulley. A small pully can be put on the same shaft, so we can use another belt and horse-power when we have much sawing to do. The saw can be run 1,500 to 2,000 revolutions with one horse. I hope some honest man will make saws as they should be, at a reasonable price. They can be made for $40.00 or $50.00.

I would like to hear from others. It is certainly your duty to speak on this subject. R. S. BECKTELL.

New Buffalo, Mich.

For the American Bee Journal.

Bee Notes from Morrison.

And surely they can not be very warm ones, for here it is, April 18th, and hardly warm weather enough for bees to fly, wind in the cold north and cloudy over head! The earth saturated with ice water and every thing blue with cold, does not give bee-men a cheerful outlook for profits from the apiary; still we can hope for the warm sun to heat up mother earth by and by. We thought last spring that we were having the worst spell of weather, but I hardly think it would compare with this; thus far we have had no such warm days as last year, vegetation is not so far advanced—although the past winter has been more mild—yet, I opine that we will have more trouble to successfully spring our bees than we did last year—if we have had so mild a winter—and speaking of "springing" our bees, reminds me of the location of some of the apiaries in the country. Did it ever occur to some of our bee-keepers that there is a draught or current of air out of doors? Just as dangerous to a stock of bees as to the owner, is a slight, steady cold draught of air, such as one will experience in some places almost all the time, be it never so still and warm; and as man is subject to disease in such places, so will a stock of bees feel the effect of such localities which will be manifest in the depopulating by degrees, of the stocks, without being able to discover the reason why; this cool air is very pleasant for man for awhile in a hot day, but it will tell on the constitution in time, if one is compelled to live in it.

I would much prefer my bee yard where the heat of the summer's sun can have *full* play with no cooling draught, than to have the same located in the refreshing breeze; at *all times* bees like comforts as well as man, and they know best how to appreciate good locations, and the man that has his stocks stand in such an unhealthy place must have himself only to blame, if in the counting of his profits, he mourns over the loss, instead of congratulating, with the success of his pets.

Bee-culture has become too much of a science, to discard, even the minutiæ of its surroundings, and since we have got by the "taking up" process for our profits, and come to consider apiculture as one of the sciences, it is necessary that the *first* principles should be well established, ere we can look for the dollars and cents in the results. Theory as well as practice admit that, in order to obtain *good* results it is absolutely necessary to have our stocks strong and healthy, and if our apiary is located in an *un*healthy locality, how can we expect other than unsatisfactory results; and as health is wealth with man, so is a healthy wind sheltered spot, one of the main points of success in the management of bees: and another point that I think of much importance in springing bees, second only to location, is the feeding of them a little, and that *regularly, and often.* Even if they have a plenty, or a super-abundance, we all know that a queen will lay more eggs when food is plenty and coming in, than when it is otherwise—and right now is when the extractor is of as much value as at any time during the year, by taking away the surplus honey that may remain in the hives, and judiciously feeding it back to the stocks; in *no way* can stocks be built up so rapidly and be ready to gather the honey from the fruit flowers that will soon come. Don't wait for the bees to have to find it on the trees; put some food where they can have access to it and not have to go miles to *hunt* in the cold winds and come back benumbed with cold, obliged to linger outside because the chilly wind drives them in their fatigued condition out of their line of flight; they are blown down and get stiffened upon the cold ground, and consequently, can not rise again, and are *lost*: every bee lost during this month, is worth five in July, and if we can keep them busy at home, we will have fewer losses in springing, and stronger stocks to gather the honey by and by, for the honey will be in the flowers, it has every year so far, and '76 will not be an exception in *that* respect! Sometime before next winter we will have a honey harvest, if we only have the gatherers; and speaking of honey extractors, how many apiaries that contemplate or intend getting an extractor this season, will wait until they want to use it, then make up their mind, and order one and the *next day*, go to the express office and see if it has come, and after the second day or visit, write the manufacturor a scathing

letter, because their extractor has not come, and they *need it so bad.* Now I know some, a good many, will do it and then blame the maker because he is so slow. A little secret I'd like to tell: and that is, that *every* manufacturor of extractors prefers from choice, to make his machines to *fit* the frames intended to be used, if possible; they give better satisfaction to the operator, and it is more pleasant to all parties *to have things fit*, consequently, they prefer to fill the orders as they come, and don't keep the extractors in stock *completely finished*; so sometimes, it takes a little time to fill the order. So please don't wait until you need it, but order one before the time of need, and keep cool with the season; you must not hurry, or get excited among bees, or about them—but have your plans, as well as hives, matured. Before swarming time, bees do nothing invariably, so get ready before hand for what is to come, and may we all be happy and successful with our pets this centennial year!

FRANK W. CHAPMAN.

For the American Bee Journal.

My Report for Two Years.

Now that the season has fairly opened and my bees are safely through the winter, and bid fair to pass safely through the the spring (especially as I am feeding them about 5 lbs. of honey per day with a view of making them strong for the first flow of honey) I feel at liberty to make known what progress I have made.

About the 1st of June, 1874, I began with two swarms of Italian bees at a cost of $43. At the close of the season they had increased to seven swarms, all of which safely wintered in the cellar. I passed them through the spring of 1875 without feeding which might have been done this spring. I estimate the yield of surplus honey from the seven stands for the year 1874 at 175 lbs., so a statement for that year would be about as follows:

	Dr.
To 2 swarms Italian bees	$43.00
" 1 honey extractor	12.00
" 1 smoker	1.50
" 1 veil	.75
" 1 honey knife	.50
" 7 boxes or hives	10.00
Total	$67.75
	Cr.
By 175 lbs. honey @ 25c per lb	$ 43.75
" 7 swarms @ $15 per hive	105.00
Total	$148.75

Subtracting the outlay from the income shows a balance of $81 in favor of the apiary for 1874.

During the year 1875 the number of swarms increased to 22 and the yield of honey was 550 lbs., while the only expense was 30 dollars for new hives. It will thus be seen that I received $137.50 worth of honey and found a capital on hand in the way of bees and implements of the cash value of $344.75. It is due the business to say that I had to neglect it almost entirely from the first of August during the balance of the season, owing to my hired help leaving me with all the farm work to attend to. In consequence of this neglect, four swarms became queenless and died in the winter, a result I could have prevented by giving them a queen in season. When I discovered it, it was too late as a worker bee had already begun laying eggs; after which the bees own the fertile worker as their queen, (whose eggs will only hatch drones) and will not accept a pure queen, nor raise one from larvæ given them, which they would have done had they been in possession of it when the queen was lost.

Clay Co., Iowa. W. W. MOORE.

For the American Bee Journal.

My Bees.

The summer of 1875 was an unusual one, in northern Illinois, at least, cold and backward during the early part, so that, up to July 10, the bees had gathered only enough honey for their own needs; then a yield of honey that just set them crazy with the swarming fever. From July 10 to August 10, I was kept in the city, and had confidently counted on the bees being satisfied not to swarm during that time.

Although I had left them weak, they must have built up with great rapidity, for letters kept coming telling me that the bees had swarmed, and Mrs. L. was kept quite busy superintending the hiving, Jeff doing the work. Unfortunately, Mrs. L. is one of that class who are badly poisoned by a bee-sting; so she dare not handle bees. I regret this exceedingly, as I should very much like to have my wife practically interested in everything that pertains to bee-culture.

Heretofore I had always done all the work with the bees myself but had to give it up now, for here was a full month of work, requiring constant watching; many swarms coming out several times and going back, because the queen's wings were clipped.

On my visit Aug. 10, I looked over the bees, giving frames of brood to the weak swarms and uniting a few, extracting about 150 pounds of honey.

Sept. 2, I went out again and found that the bees had been making good use of the time, some of the hives being so full of honey, that the queen had room to lay eggs only in the lower edges of the combs.

I overhauled 25 hives, extracting what honey I thought they could spare and still leave them *plenty*, and would have done the same thing with the remaining 15, but they began to do some robbing, and I thought best to stop operations.

November 25, I went out again, but my wife had got the start of me, and had all the bees in the cellar except two swarms which were so strong and cross that they were left. These two, I helped Mr. P. put in the cellar; and, after loosening up one corner of each quilt, they were left for their winter nap.

Dec. 6, My wife gave them an airing by opening the inside cellar door and building good fires in the kitchen and in one room over the cellar. A chimney running *from the ground* up through the house has a stove-pipe hole opening into the cellar, and in this hole is put a stove-pipe opening on the cellar bottom. This is left open through the entire winter.

The winter being so very mild, I felt quite uneasy for fear the bees would be too warm, and I should find a good share of them dead, on the cellar bottom.

February 12, my wife went out and gave them an airing and reported them quiet.

April 10, she took up her summer quarters on the farm (if 25 acres can be called a farm) and reported the bees somewhat uneasy, and the cellar and house damp. The weather being too cool to set out the bees she set to work drying out the house, and airing the cellar; and they quieted down.

April 17, I went out on the evening train fervently wishing it might be a good day for bees to fly on the morrow. My wish was gratified, and in the forenoon the bees were carried out by Mr. P. and D., the latter being Mrs. L.'s assistant farmer for the present summer. Five of them were dead. One of these had been allowed to fall, on being taken in the cellar, and all the combs were broken down. Not a drop of honey was left. There must have been plenty of honey in the combs when taken in the cellar, or they would not all have broken out of the frames. Did their being down on the bottom of the hive make them eat so much more honey? One other seemed to be out of honey, and I am sorry to say one of them had been given scarcely any ventilation and was quite wet and mouldy. A sixth was queenless with a mere handful of bees, and these I gave to another hive.

This left me with 34 hives *wintered*, and with the exception of two, they appeared to be in pretty fair condition, there being bees in four or five of the spaces between the combs, and in some of them as many as six spaces had bees in. This seemed to be doing pretty well considering that they had been imprisoned from November 24th to April 18th, nearly five months. The two weak ones were very weak, but if I could be there to nurse them, I think they could be made to pull through the spring. As it is, the matter is somewhat problematical. To help them, I put in a division board and covered them up as warm as I could. B. LUNDERER.

For the American Bee Journal.

Bees Working in Rye Meal.

As the season is near at hand for feeding bees rye meal as a substitute for pollen, it may be of interest to know how they manage to make the fine, dry particles adhere, so as to remain in their bread baskets, being on the wing most of the time while working upon it. Pollen is obtained from the flowers to the best advantage while the atmosphere is moist, so the bee imitates nature by supplying the required moisture so as to make the fine, dusty particles adhere to each other so they can handle it. By observing bees while at work on rye flour, the process they resort to is readily seen; they will be continually running out their tongues and wiping down upon it with their fore feet, and keep up a sort of chafing motion with all of their legs. By tasting of it after they have worked it, it has a sweetish taste. The probability is, they use honey to a certain extent to dampen or moisten themselves for the purpose above stated. This may seem like a small matter to some, but all such matters are felt in the aggregate, and it goes to show that the honey-bee is not ashamed to spit on his hands and take hold of hard work.

Ono, Wis. M. S. SNOW.

Bee-Keeper's Association.

The Henry County, Ohio, Bee-Keeper's Association met at Napoleon, Ohio, April 22, 1876.

The object of the meeting being stated by D. Kepler, Capt. W. F. Williams was appointed President, *pro tem.*, and S. L. Curtis, Secretary, *pro tem.*

On motion the following Constitution was read, adopted by sections, and then adopted as a whole:

CONSTITUTION.

ARTICLE 1. This Association shall be known as the Henry County Bee-Keepers' Society.

ART. 2. Its object shall be the promotion and encouragement of bee-culture in Northwestern Ohio.

ART. 3. Any Bee-Keeper in Northwestern Ohio may become a member by a vote of two-thirds of the members present, and paying a fee of fifty cents and signing the Constitution.

ART. 4. The officers shall consist of a

President, Vice President, Secretary, Corresponding Secretary, Treasurer and an executive committee of three, who shall be elected annually and hold their offices until their successors shall be elected.

ART. 5. All committees except the executive, shall be appointed by the President, except by special resolution.

ART. 6. The stated meetings of the society shall be had on the 1st Saturdays in January, April, July, and October, at such time and place as a majority of the members present at any stated meeting may determine.

ART. 7. A special meeting may be called at any time by the executive committee.

ART. 8. This Constitution may be amended at any regular stated meeting by the concurrence of two-thirds of those present, provided notice of such amendments have been given at a previous meeting.

The opportunity now being given, the following parties signed the Constitution and paid their admittance fee.

B. Bowlsby, J. Huddle, Daniel Kepler, W. F. Williams, Geo. W. Buchanon, Geo. Reinbolt, S. L. Curtis, David Bartgis, E. L. Mann, J. P. Watson, John Wright, David Clifton, Wm. A. Dunham, John Yaney, J H. Bartgis, H. Leaders, J. M. Shoemaker, J. W. Stevens, T. B. Hayes, K. Rakestraw.

On motion of W. F. Williams the meeting then adjourned until 1½ o'clock in the afternoon.

The afternoon session met at the appointed time. The minutes of the forenoon session were then read and adopted. On motion of E. L. Mann, the meeting then proceeded to the election of officers. The names of W. F. Williams and E. L. Mann being announced as candidates for President, a ballot was had which resulted in the election of Col. E. L. Mann. Capt. W. F. Williams was elected Vice President by acclamation. The following officers were also elected by acclamation:

S. L. Curtis, Recording Secretary; Daniel Kepler, Corresponding Secretary; Thos. B. Hayes, Treasurer. Several names were announced as candidates for executive committee, but all other names being withdrawn, Dr. J. M. Shoemaker, David Clipton and J. P. Watson were elected by acclamation.

Remarks were then made by D. Kepler, G. W. Buchanan, Dunham, Shoemaker, Yaney, Bowlsby, Bartgis and others; and an hour was occupied in an interchange of views, and the questions freely asked and answered, manifested a lively interest in bee-culture. On motion of W. F. Williams, the Corresponding Secretary, to be assisted by the President, was instructed to take such steps as are necessary to bring about the organizaton of a State Bee-Keeper Association, in the State.

S. L. CURTIS, Sec.

Michigan Bee-Keepers' Association.

The third semi-annual session of the Michigan Bee-Keepers' Association was held in Kalamazoo, on May 3d, 1876. The attendance was larger than at any previous semi-annual meeting. The discussions were animated and interesting, eliciting much valuable information. They embraced many topics of vital interest to American apiculturists, and fully sustained the national reputation of this Association. Those engrossing topics, winter bee-keeping, honey markets, and best method of securing surplus honey, were ably and thoroughly canvassed. The extractor found many warm advocates, who still insist that its extensive use is essential to success. From the statistics collected, it appeared that the losses in wintering had been quite general throughout the State. Much the best success has attended out-door wintering.

Under existing circumstances, it has been deemed advisable to omit the discussion of the several topics. The next annual session will convene in Kalamazoo, on the 2d Wednesday of December, 1876.

HERBERT A. BURCH, Sec'y.

For the American Bee Journal.

An Explanation.

MR. EDITOR:—After the high-toned and dignified position taken by you, in a recent number of the AMERICAN BEE JOURNAL, in regard to correspondence, I am somewhat surprised at seeing Mr. Bingham's article, on pp. 138-9, May number. I am also surprised at his writing so many untruths in reference to my business; he seems terribly "*jarred*"—is afraid—has lost faith—strikes out blindly and indiscriminately—insinuates—talks wise—tries to joke a little, to reassure himself that he is not hurt, etc., etc.

In a statement, in a previous issue, you excused a misstatement of his on the ground of "treacherous memory."

He speaks in this article of my "letters and articles previously written," showing an unfriendly feeling towards honey producers.

I know of but one article, or letter, written by me for the AMERICAN BEE JOURNAL in a great many years.

I have made maple syrup for the past eight years, some time before the infant days of comb-honey jarring. The "Kanuck" brand can only be made by myself, the name being my trade mark.

The cry of adulteration has had nothing to do with my syrup business; that cry on the part of honey producers has not affected my trade a particle; but that cry on the part of my customers, who have had, and have now, candied jar honey on their

shelves, has caused me to invent modes, which I have covered by letters patent, of getting up jar honey in which there is no honey outside the comb to get candied—of course it will be said I have no right to these patents, but, *I have them*,—the bees themselves packing it in the jars—*don't get skeered, nobody*—it is box honey, only it is in jars. The candying of honey has been my only trouble in jarring—the best evidence of its purity its only enemy. I have bought dozens of copies of the different bee papers, containing articles on candied honey, and sent to those who called such honey impure; but they often thought we were in the same balloon, and would none of it; others simply wish me to exchange for fresh goods. Still the trade has been good and continues so, but the new style of packing will be the *ne plus ultra*—which undoubtedly will be imitated before the first season is over, and they will swear that their grandfather did the same thing, but they did not think it worth anything—and probably it was'nt; or they may refer me to Sampson's lion carcass, in which bees stored honey. Well, it won't be the first man's *lion carcass* I have had to deal with. Some one may say, that this was the way the honey was put up that was found in the ruins of Pompeii, and I will find you a man who will say that all the honey he ever saw, that came from those ancient ruins, was labeled "PERRINE, CHICAGO;" but I have reason to believe he was joking.

The honey houses that "sprang up like magic," are the identical ghosts at which Mr. B. was frightened, and from which he has not yet recovered, although they all vanished "like magic." It is claimed by him who founded and built up this business, that it is the original and ONLY HONEY HOUSE—all others were, and are, magic imitations. When you are badly scared at something you don't understand, just "clamor," make a big noise, and it will reassure you, and you won't see the hobgoblin any more.

Mr. B. says "honey dealers will prostitute fancy comb honey in boxes and frames, if they have it in their power, and will so have their revenge." Revenge on whom? Does he confess to having done this himself, and is he afraid that others have learned his trick, and will do it themselves and he lose his trade? I could give names of honey producers having reported to me of other honey producers feeding sugar to make comb-honey, and one who fed such common brown sugar that he lost his little retail trade at home; and a short time ago I called upon a very prominent bee-keeper and took tea with him, and in the course of the conversation at table, spoke of feeding, and he stated that he had fed a whole barrel of sugar to one hive as fast as they would take it in; just then he looked hurriedly at his wife, and changed the subject; he did not ask her what she stepped on his toes for—*he knew*. That hive must have swarmed once a week through the season, or have made a deal of box honey.

Every one interested in comb honey, says: "do not use foundation for surplus honey." I suppose I should properly join in that same cry, as it will affect my trade in jars. I would here state that I can make light foundation with *ten square feet* to the pound, or anywhere down to *five square feet* to the pound; the lighter in weight the shallower the cell. I don't pretend to know which is best; "you pays your money and you takes your choice." I would advise all to use foundation sparingly, this year, or rely on the experiments of others until it becomes a fact whether or no it will pay to use them or not, either in surplus boxes or brood chamber.

Since Mr. B. asks the question, I will say there is a *lie* mixed up somewhere in his figures. I will fill the frames of an ordinary Langstroth hive with less than one pound of foundation, but probably it would take a full pound to furnish wax to complete the cells.

This is my eleventh year in the honey business, and I have simply sought to supply the demand for honey in its various forms and conditions. I have no choice between selling liquid or comb honey, in boxes or jars. I sell liquid honey in large quantities, at home and all over the states—sell some small box honey to the city trade only—but do not ship any, as it will not ship safely. I cut immense quantities of comb honey to pack in glass jars, which I guarantee to ship safely, and pay for all that arrives in bad order.

Mr. B. had to sell his small fancy box honey shipped to this market, to cut into jars the past season.

I had an order a few days ago, from a large jobber in canned goods, for comb honey in jars, who has bought a great deal of my goods in past years; but two years ago a "honey producer" induced him to believe that his goods were purer than mine, and sold him a small stock of jar honey. It was not neatly put up, and sold slowly, and, of course, soon candied, even sooner than mine, (*being purer*?) and was unsalable. I always exchange fresh goods for candied goods, but this producer would not do this and so they were stuck and would not buy any goods of me until they were sold which had to be done at a loss. The house wrote that they had "quit fooling around" and would give me their orders as usual hereafter. The same thing occurred to a large grocery jobbing house here in the city a short time ago. The jobber prefers jar honey because it will ship safely and box honey will not. The retail grocer prefers it because it does not break down

and leak. It is all right till it candies; then it is all wrong, or nearly so. Some prefer candied honey and buy it, but if it would not candy, the trade could be extended ten fold or possibly an hundred fold.

I stencil on each side of every case of my goods that I ship "THESE GOODS SPEAK FOR THEMSELVES."

I have sent sample lots of a few cases each, all over the country to be paid for if satisfactory, and have thus increased my trade year after year.

I do not believe it occurs to bee-keepers generally, how little I care whether they like my manner of putting up honey or not, as I do not solicit orders from them. I have to cater for an altogether different people, who know little or nothing about honey, and I have to put it in such shape as will meet the readiest sale and give the best satisfaction to the consumer. Of course you can see that it would be the greatest folly to put up something that would not give the most eminent satisfaction. C. O. PERRINE.

Chicago, Ill.

For the American Bee Journal.

The Ripening of Honey.

In reply to the remarks in A. B. J., and *Gleanings* of last month, of several of our brethren, in regard to the "ripening of honey," allow me to send you with to-day's mail a jar of clover honey of my own crop of 1874. We had no honey crop last year. You will oblige me by giving to our friends your own idea of the *state of ripening* of this honey. I have thicker honey from the same season, but it is in larger jars and not so easy mailed. All of my honey was extracted when the combs were filled, and not in a single instance did I wait for the cells to be capped. On the contrary, cells were only capped when my time would not permit to extract sooner. Opening, a few weeks ago, a couple of cases of 2 lb jars which stood in my store ever since the harvest of 1874, I found almost every jar ungranulated. Honey was coming in slow, two years ago, so that we had a chance of leaving it in the receiver a week or two for evaporation. From the receiver we bottled it and packed it in cases (with sawdust.) Our chief aim, in the production of honey, should be quality, and our next quantity. I should not wish to be understood that I consider it an improvement to the quality to extract the uncapped honey, but I do believe that it is not in the least detrimental, providing we give the honey a chance for evaporation after it is extracted. It is very important to the trade to keep each kind of honey separate, and this can hardly be done if we extract our capped combs only, excepting it be during a heavy flow of honey. Several of my friends who furnish me with honey, assure me that they never extract any before their combs are capped. Yet some of their honey is very thin, and some has even a sour taste about it. I could prove this to you by sending you a sample of one. I am sure my friend is sincere in his assertion, as I know him to be a good man. My own honey may be thin some seasons, like that of other parties, but I never found this sour "twang" about it. If I was not particular about keeping separate each kind of honey, I should very likely allow the combs to be capped before extracting. But, capped or uncapped, all extracted honey should stand in open vessels for evaporation, and all impurities which will arise to the surface should be skimmed off carefully before it is barreled or jarred. From those parties who work contrary to this rule, comes our thin or sour honey principally. Such, at least, is my experience. I am perfectly willing to modify my opinion if I am convinced of being wrong. CHAS. F. MUTH.

[A later note from Mr. Muth says that by mistake one of his young men sold the jar of clover honey which he meant to have sent, and so he has sent us a jar of honey of the crop of 1874, but not clover. So far as quality is concerned, we have tasted better honey than the sample sent. It is thick and nice in appearance with no evidence of having ever soured in the slightest degree, and there is nothing to make us suppose the flavor any different from that got directly from the flowers.—ED.]

For the American Bee Journal.

Albino Bees Again.

In the March number is an article headed, "Albino Bees," in which Mr. Staples tried to misrepresent that stock of bees. Any intelligent person who will read the article will see that the writer contradicts himself. He says he does not like "misrepresentations;" now, I do not like to see any person or any thing misrepresented.

He tried to destroy the reputation of the Albinos from selfish motives. Because he has failed to accomplish anything with them, does it follow that every one must fail? Is he the *Solomon* of the apiary? Are there not others in the business who have studied it as closely as he? Is it because he has failed that he would become jealous of one who has succeeded? If he "dislikes misrepresentations from the very heart," why does he try to misrepresent another? If I am to judge of his character from the tenor of his article, I would infer that he is egotistical, and

seems plainly to say, that because I have failed no one else can succeed. His language would seem to indicate that he considers himself as standing at the top of his profession and all other bee-keepers must "crawl at his feet." The writer says in one place that he has never reared one pure Albino queen, and then says that he never raised one which did not become a drone-layer after the first season! How are we who read this article to understand it? Is it not a flat contradiction? He cries "humbug," and at the same time tries to invent one to accomplish his selfish ends. He attempts to heap epithets upon one of whom he is jealous, simply, because that one has sold a few queens to some of his customers.

He seems to understand some tricks in queen-rearing, perhaps, has practiced some of them.

It has always been my custom when selling queens to guarantee them. I have sold queens to all parts of the United States, and have never yet taken any advantage of any one. If I do sell queens to any of his customers is that any reason why he should attempt to slander me?

It seems to me that if persons attempt to call a thing a humbug, they should understand it thoroughly before so doing. But the only reason he can assign, is that he has failed to raise Albino queens.

The American people generally purchase where they can get the most for their money, consequently they buy my pure Albino queens—"the best in the world." D. A. PIKE.

Smithsburg, Md.

Notes & Queries.

CONDUCTED BY CH. DADANT.

Would it be well to disturb the bees when at work in boxes; by removing the boxes to extract honey from brood chambers?

ANSWER:—Yes; you can remove the boxes, and extract honey, without inconvenience. But afterward, the bees will put their newly-gathered honey in the brood chamber first, and ten to one, if you have made a large room in the brood chamber, they will take the uncapped honey from the boxes, to fill the brood chamber.

On April 20th one of my very strongest stocks with as bright comb as you ever saw, plenty of pollen and uncapped honey, and a large and yellow queen, appearing as in the height of laying; there were no signs of queen-cells as though a queen had been raised. I gave another comb of uncapped honey, returned in eight days, and finding no eggs, drone nor worker, I killed the queen. There is not a drone in my apiary. Was I too hasty? Should I have kept her for further experiments?

A. B.

No! There are drones now, if not in your apiary, some are in your neighbors' apiaries. We have plenty of them already.

What use can be made of the contents of a hive depopulated through dysentery, and left full of partially mouldy combs, with some honey? When you feed bees honey in the comb, is it any advantage to uncap it? MRS. HELENA MADSEN.

You can use the mouldy combs, if they are not rotten, in putting them in your strongest stocks, one comb at a time; or by putting in the hive a strong swarm. But the first plan is the best.

There is no advantage in uncapping the cells of honey, the bees will uncap them according to their need. Yet if by feeding you desire to excite breeding then it is better to uncap the combs.

Let me know through the JOURNAL how I can prevent getting hybrid drones.

REV. E. LEWIS.

Put drone combs on your best pure Italian colonies, and take out all drone combs from your impure ones. Raise your queens in a season when there are no drones, *i. e.*, before black or hybrid drones are hatched, or as soon as they are killed by bees, and if you have stimulated your drone raising colonies they will produce drones to fertilize your queens.

When shall I cut Alsike clover for seed—the first or second crop.

A. COOPERRIDER.

Cut after the first crop.

What should be the distance between the walls of a hive and the ends of the frames, also between the lower part of frames and the bottom board? How much space between the sides of hive to contain 10 frames? I am making some hives 18⅜x12½ inches, 11⅛ inches deep. I put 9 frames in a hive, I used to put 8 frames in 12 inches, but think it makes them too far apart. My frames are 17¾x10½ outside, and 10x17 inside, ends of frames ⅜ in. thick, top bar 5-16, bottom bar 3-16, space top, bottom, and ends of frames 5-16. J. F. P.

The distance between the outside ends of the frames and the walls of the hive should be from ¼ to ⅜ of an inch. Between the under side of frames and bottom

in our apiary is about ⅜ of an inch, more or less.

We think that 1½ inches is the right distance from centre to centre for the frames; a little less will do, but you experience more difficulty in taking them out.

I am a novice in bee-keeping, yet anxious to learn, and am taking your interesting BEE JOURNAL. Query 1st. I have a colony of bees, which I have supposed to be pure since introduction of queen last summer, but there are some peculiarities about the worker bees that create in my mind a suspicion of impurity. The worker bees all seem to have three distinct yellow bands, yet there are many of them with the whole of their bodies, behind the yellow bands, perfectly black, while all the others are uniform in color and have all the other marks which indicate purity. Is it common among pure Italian bees to have such variableness in the same hive? J. W. MCNEIL.

The worker bees whose bodies behind the yellow bands are perfectly black are the old ones who seem darker than the others because they are deprived of hair.

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1. Is a frame, 8 inches deep by 16, in the clear, deep enough for out-door wintering in Michigan?
2. Is a frame 10x16 in the clear, better? If so, how many frames to the hive?
3. Is a frame 11x16 too deep? If not, is 8 frames enough for the Langstroth hive?
4. What size and shape frame is best, and how many to the hive? W. A. M.

I cannot answer the first question, as I never have lived in Michigan, yet I believe that bees, in the North, need a deeper frame than in the middle or Southern States.

The frames which have given us the best results, so far, are the Quinby frame, 11 inches by 18—8 or 9 frames to the hive.

If I was to begin anew, I would make my frames 16 inches long by 12 or even 14 inches high, especially if I lived in Michigan.

I use here hives wide enough for 11 Quinby frames. By means of one or two partition boards I reduce the hive to 7 or 8 frames, for winter, filling the empty spaces with dry leaves, chaff, or dry moss.

When the honey harvest begins, I put, outside of the partition boards of a few of my best stocks, one or two frames filled with dry combs, and I examine these combs every day. As soon as bees begin to bring honey in these outside combs, I give plenty room to all my colonies, either at side or above, or both, to prevent swarming.

Is there anything known that will remove the glue from the hands?

A. B. MASON.

Yes! alcohol or spirits of turpentine will remove bee glue instantly. We prefer alcohol, for its odor soon disappears.

Why will not bees eat candied honey? I have several times offered this candied honey and they only eat out what liquid honey they can, and reject the rest. I have placed a card containing candied honey in a hive, and then on looking, after a few days, would find the grains in the bottom of the hive. C. H. WHITMORE.

Your bees have not been able to eat your candied honey because you gave it in cold weather. In summer they would have eaten it all, for heat is necessary to melt candied honey.

How shall I hive my bees? When they swarm naturally, sometimes they stay in the hive an hour or two at a time, and sometimes will not be lead. C. M.

The first swarm led by the old queen remains generally in the hive in which it is hived. The queens of the second swarms, being unfertilized, leave the swarms to hunt for drones; then the swarm follows. It is advisable to give all the swarms a comb of young brood as soon as they are hived. The bees, finding that they have the means of raising a queen, will not leave the hive. It is better not to let the bees swarm naturally, but to swarm them artificially.

☞ The Southern Kentucky Bee-keepers' Association will meet at Smith's Grove, Ky., on L. & N. R. R. on June the 1st. We expect to have an interesting time. Would be glad for all who can come to be with us. We want communications on bee-culture. We want for exhibition, bee hives, honey-boxes, extractors, and uncapping knives, bee veils, queen cages, bee-feeders, and any and every thing in the line of bee-culture will be received and put on exhibition and sold, or returned as may be wished; we sold every article exhibited one year ago. A committee of arrangements will provide homes for all who come. We hope our brother bee-keepers will give us a lift as we are working for the advancement of scientific bee-culture. N. P. ALLEN, *President.*

Biographical.

For the American Bee Journal.

Warren B. Rush.

Warren B. Rush was born April 17th, 1846, Morris Tp., Greene County, Pennsylvania. At the age of ten years, his parents removed to Simpson's Store, Washington County, Pa. At the age of sixteen, he entered college, and remained three years. In 1865, he took a full course in Duff's College, Pittsburgh, Pa. After eighteen months of travel, he began the study of pharmacy, serving as an apprentice in a drug store one year, in West Va.; one year in Pittsburgh, Pa. In 1864 (Jan.) he began the regular study of medicine. After attending one full course of lectures, he was elected apothecary to the City Hospital in same city, (Philadelphia, Pa.) 2y but after three months, his declining health succumbed to nervous prostration, and he was brought home without a hope of recovery, June, 1871. He continued his studies until April, 1874, when his health seemed too feeble to continue, and he gave up the idea of ever practicing.

He obtained his first hive of bees (a hollowgum) in 1857. In 1863, he bought a double walled Langstroth hive. In 1864 made another one, and transferred the bees from the gum. He had never heard of the idea of transferring at this time, but wishing to study the habits of bees, he conceived the idea of putting them in the frames. From this time until 1871, (when he returned from the city to his father's) he began the regular study of "*the Bee.*" He did not keep bees for profit until 1874. He lost nine hives by being robbed, and ruined some by experiments, (about six) but not one by disease. This year being the third year that the honey had failed, he sold out, and in April, 1875, moved to Pointe Coupee, Louisiana, for his health, and to pursue his occupation of raising bees and honey. He devoted much time to the study of the difference between bees *North*, and bees *South*, as his motto is, "know what you are doing," and you will succeed. He has taken a partner, and is beginning on a firm basis. They are progressing finely, with 110 hives to start with, and as many more engaged. He is a strong advocate of "*extractors*," and has learned the secret of raising as fine honey as any in America. Has used some different kinds of hives. Langstroth was his first, put it by, but now has finally adopted it again, and says there is none better. He makes it two-story, without the honey board or strips around the sides; second story same as first, each ten frames, the cover fitting either story.

W. B. Rush.

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Our Exchanges.

GLEANINGS.

Is as usual out in good time and in good shape, but we cannot resist the temptation to poke a little fun at Novice, who is so free to criticize others, for advertising amongst humbugs and swindles Gould & Gillespie, and J. K. McAllister & Co. in the year 1786. Why not make it a centennial affair by going back ten years more? It may however be well to look out in this century for these men.

HIVES.—Novice was formerly a staunch advocate of the Langstroth. Then he tried various things in the hope of settling upon some standard size of frame which all bee keepers would accept, as a compromise between the most shallow and deep; but a uniform size seems now to be abandoned by most of its advocates as a thing hardly attainable, (although they have just commenced to agitate it in England). Novice now says: "We do believe the L. frame is very soon to be the one of all others." He advises making hives with the heart side of the timber outwards as the more they try to warp the tighter will be the hive.

FINDING QUEENS.—G. M. Doolittle says: "If the time of day is from one to three o'clock, as a rule the queen will be found on one of the outside brood combs, no matter where the bees are thickest; if from seven to nine o'clock in the morning you will find her on the center brood comb, or if 6 to 8 combs are filled with brood, on one of the three center brood combs. The principle is that at from 1 to 3 A. M. the queen is at the outside of the brood nest, then returns to the center, getting there about 8 A. M., and then continues on, arriving at the opposite outside at about 2 P. M., then back again, getting on the center comb about 8 P. M. Thus she traverses the whole brood nest twice every 24 hours. This is when the colony is in its normal condition." We should be glad to hear whether others have verified these conclusions.

THICK COMBS FOR THE EXTRACTOR.—R. S. Becktell asks about these and Novice replies: "We have used thick combs with the extractor and have frequently advised them. At the time we transferred our American hives to the Langstroth, we saved all the drone comb and put it in frames by itself, and have almost every season found these drone combs much the most convenient when we succeeded in preventing the queen from using them. We can generally succeed in doing this by placing them at a considerable distance apart, being careful not to get them so distant *at first* as to allow them to build a small comb in between. As the cells get lengthened we can put them farther apart, and we last season had one such comb weighing, when filled, 11 lbs."

CHAFF.—This is Novice's latest hobby. Not having succeeded to his satisfaction with the House Apiary, he is now trying oat chaff packed on all sides about the hives. We shall look for the result with interest.

COMB FOUNDATION.—He says: "We are happy to inform our readers that we not only have laid aside the movable type, used by our friend Wagner, but have dispensed entirely with beeswax; paraffine being much cheaper, whiter, stronger, and more rapidly worked by the bees. The idea that the bees will not reduce the thickness of the bottom of the cells is entirely exploded; no argument is needed, for you can, any of you, test the matter in your own hives."

BEES AND FLOWERS.—A London paper says: "An interesting experiment is being made in the shipment of two nests of humble bees, which have just left Plymouth for Canterbury, New Zealand. The principal object aimed at in the introduction of these insects into the antipodes is the fertilization of the common clover, the pollen of which the common bee is generally unable to collect, while the 'humble bee,' having a larger proboscis and being much stronger, is able to reach sufficiently deep into the flower to collect the fertilizing dust. It is hoped that by this means the plant will be more generally fertilized, and its cultivation largely extended in the colony. The bees which have just left England for the antipodes were in two separate nests, which had been procured by Mr. Frank Buckland, and packed in a suitable box, where they were supplied with everything necessary for the voyage, including honey, fa-

rina, water, &c. They are very fine specimens of the humble bee. The exact number is not known, as many of the eggs are not yet hatched. They are placed under the care of Mr. John Hall, a member of the council of New Zealand, who takes a stock of ice for the purpose of keeping down the temperature of the nests while passing through the tropics."

BEE-KEEPERS' MAGAZINE.

COMB FOUNDATIONS.—A cut is given in *B. K. M.* of a foundation machine, and if we understand it rightly, this machine makes only the *edges*, or about two cells in width at a time. If a sheet of wax has impressions made only on the *edge*, we should not value it very much, and if the idea is to run the sheet through the machine several times, making a couple of cells in width each time, it seems to us the labor would be great, with danger of not having the rows of cells correspond.

An article is quoted from the *Bienen Zeitung*, for January, 1859, to show that foundations were made at that time, two years prior to the issue of the Wagner patent.

Mr. H. A. Burch enters an emphatic protest against the use of foundation as starters in honey boxes or for any surplus comb receptacles.

MIGNONNETTE.—J. E. Johnson says: "I really believe that an acre of mignonnette will amply supply one hundred colonies of bees abundance of work, with nothing else to feed upon."

COLOR OF QUEENS.—N. Levering says, in *Los Angeles Herald:* "We are asked by a correspondent why the color of queens from the same stock varies so much? We think a solution of this interrogatory rather difficult. For some time we have thought that cool weather had something to do with it. In the State of Missouri we had several queens from pure Italian mothers in mid-summer and late in September and the first of October, and found those reared late, when the weather was cool, much darker than those reared when the weather was warm. The first reared was a bright, light yellow, the latter approximating a black. We are now rearing queens from pure Italian, which are of a dark or leather color—the ordinary color of all imported queens from Italy or Germany that we have ever seen. Their progeny are of a bright, light yellow, some of them with slight dark rings round the body, while occasionally we find one from the same litter of bright colored queens, quite dark. We are now somewhat inclined to doubt the climate theory, here, where the climate is so regular and even, unless it be the cool evenings, and that some of the cells are better covered and receive more heat from the bees than others, and those receiving the least heat produce the dark queens. Whether it is in the degree of heat they receive in hatching, change of climate or pasturage, remains a subject of speculation. We have come to the conclusion that the color of queens is about as changeable as high life in Washington.

FOUL BROOD FOR SALE.—D. J. Bardwell gives warning in the *Omro* (Wis.) *Journal*, that a lot of bees, hives, etc., affected with foul brood, are advertised for sale, by a firm of Berlin, Wis.

LUBBOCK still insists that bees are not of a sympathetic nature. And yet this gentle insect, with the buff mainsail and red-hot rudder, has frequently brought tears of sentiment to our eyes.—*New York Her.*

BEE WORLD.

TWO QUEENS IN A HIVE.—Will M. Kellogg says: "I still have the two queens in one hive, found on the 6th of April. The young queen, unfertile, has no wings at all, but seems spry as a cricket. The old queen keeps right on with her work and never seems to mind the young one. Who can beat it? I have never heard of two queens staying so long in one hive,—nearly six weeks now."

HONEY PRIZE.—Dr. E. C. L. Larch, proposes a $100 prize, at the St. Louis fair, to decide the question where the best honey is obtained. We do not doubt his good intentions, but we somewhat doubt whether a matter purely of taste, could be satisfactorily settled beyond question, by any tasting committee. It might so happen, that three men might pronounce a sample best, which the majority of people would place second. One may taste an entirely new flavor and not particularly like it, but on becoming accustomed to it, prefer it to all others. On the other hand, a flavor may strike one at first as being superior, but not bear acquaintance well. A $100 prize might do something toward it, but would hardly finally settle the question.

BRITISH BEE JOURNAL.

The weather seems to have been very adverse in England, during the month of May, and many losses are reported.

The movable comb seems not to be in so common use in England as here, common box hives and straw skeps still being used. Indeed an advertisement, illustrated with a cut of a straw hive, with flat top, appears in the *British Bee Journal*—yes, two of them.

We are somewhat under the impression that there are more amateur bee-keepers in England than here, keeping bees for the love of it, but fewer men engaged in it as a money-making business, than are to be found here. The *British Bee Journal*, un-

der Mr. Abbott's able management, is, however, doing a good work, and we must look out or our English friends may yet lead us in both respects.

QUEENLESS STOCKS.—The *British Bee Journal* advises to wait "until drones appear, and then make the respective occupants of a queenless and a full stock, change their tenancies. Each set of bees must be kept on its own stand, and the hive of each given to the other; the artificial swarm will then quickly fill the broodless combs of the queenless bees, while the latter will act as heat-producers in the others' brood-combs, and prevent the possibility of loss through sparseness of bees, a casualty too common when driven stocks have been removed from their original stands. The young bees, which will hatch by hundreds daily, from the combs of the driven bees, will speedily raise queen cells therein; or, if possible, a queen, or queen-cell, may be given to them, but in either case, we think the bees of the queenless stock will have been put to the best possible use."

Comb Foundation.

We obtained some comb foundation and have it on trial at our own apiary. The bees take to it readily, and the only question about using it in the body of the hive is the expense. As we have before stated, it will depend on the circumstances of each individual case as to what price it will be profitable to pay for it. Perrine has made no changes from his prices first advertised—$1.20 to $1.00 per pound for five to one hundred pounds, according to quantity—although he thinks he will make improvements in rapidity of manufacture, and reduce five to ten cents per pound. This for pure beeswax.

King & Slocum say they can furnish the pure beeswax foundation at about $1.25, charges paid, and when mixed with other materials at $1.00.

We don't know Novice's price for pure beeswax, and are a little mixed about his prices for the "mixed" article. We think it is 75 cents for the yellow, and he hoped to be able to furnish the white at 75 cents. His white foundations are two parts white wax and one part paraffine. Yellow, one part yellow wax and three parts paraffine. From experiments made, he thinks pure wax would not answer the purpose at all. On the other hand, Perrine says he has not yet been able to make paraffine work.

We are a little surprised at the price of King & Slocum. As they state that each one should be able to make his own foundation at a cost not to exceed 40 cents per pound, why should they not be able to sell it at less than $1.00 per pound?

We got some white foundation of Novice. It appeared rather brittle, but this was partly, perhaps altogether, owing to the way in which it was packed, being rolled up in newspapers and sent by mail. It was much broken. We are not sure but we will have to give up some of our prejudices against paraffine if one-third of the material in this was paraffine. We chewed a piece of it for two or three hours and could not discover any taste whatever, so *perhaps* it is just as good as pure beeswax. We do not forget the disclaimer of one correspondent, that beeswax is not honey-comb, and are ready to approve or condemn the use of foundation for surplus according as the evidence may decide. We still think that if it cannot be used for surplus it will not be nearly so important an acquisition. We should have said in the proper place that we tried chewing some white foundation of Long's that had a decidedly unpleasant, bitter taste, and another specimen that had a greasy taste, and lost entirely its tenacity on being chewed.

We obtained some yellow foundation from Perrine which seems to work well for the body of the hive. One frame of it had eggs in the cells within about twenty-four hours after being placed in the hive. But all the combs except one were taken away from the colony. One frame had in it a depth of about three inches of foundation, and the bees built the next three inches of the same yellow color. Did they carry down some of the wax from above? The height of our ambition had been to fill a frame entirely full of foundation, fastening it on all four sides so that there could be no question about our having the frame full of worker comb and perfectly straight. On trying it we found it was a failure so far as being straight, for after the bees got to work at it, it bagged to one side. We think the best way is to leave a space of about a quarter of an inch at the bottom and at the two sides. In fastening into the frame we succeeded best with a mixture of beeswax

and rosin. This we melted and dropped on with a spoon, letting it *run* along the edge of the foundation which immediately fastens it to the frame.

New Use for Larvæ and Pollen.

We have some original ideas from Mr. Alfred Chapman, of Hancock Co., W. Va., which, although they will hardly be accepted as correct, have at least, the claim of novelty. Speaking of rearing queens, he says:

"When a colony of bees become queenless, they select a young grub, and it is my experience, they take other young grubs and break them, and suck the substance out of them and fill with this the upper end of the queen cell in sufficient amount for the abdomen of the queen to lie in while maturing, and that larvae being around the abdomen of the young grub queen is a feeder of substance, and that develops the organs of nature, or her whole nature is changed from that of a worker to a queen."

His theory for explaining how an unfertilized queen can lay eggs that will hatch out drones is as follows:

"This substance of the broken larvae stowed in the upper end of the queen cell is the nearest of mother's nature of anything to lay around the young queen while maturing, and her nature being fed from this principle, she becomes fertilized from the pollen of the flowers, the same as one flower is fertilized from another, and from that fertilizing principle she gets her power to mature the drone egg without impregnation."

ENTOMOLOGY.—Prof. A. J. Cook of Michigan, and Prof. C. V. Riley of Missouri, have issued their State reports of noxious, beneficial, and other insects, and have each sent a copy to this office. They contain many very important facts and experiments, which will be of interest to the people of those states in particular, and of the whole West in general. Prof. Cook's contains 48 pages, while Prof. Riley's has 190. Both are illustrated and nicely printed..

THE METEOROLOGIST.—This is the title of a new monthly by Prof. John H. Tice, of the United States Weather Bureau, St. Louis, Mo. Our readers will remember the small item we inserted on page 117 of our May issue, predicting "cold and wet weather," and how literally it was fulfilled. Prof. Tice's theory is that atmospheric disturbances are caused by the equinoctial phenomena, which can be foretold with certainty, and that these affect the entire globe. So far, the theory has received marked indications of correctness, and we shall be more and more, interested in Prof. Tice's *Meteorologist*, as we learn further scientific facts. It is published by Tice & Crossman, at $2.50 per year, 307 Locust street, St. Louis, Mo.

☞ The season is over now for sending tulip trees. Those wishing them for next season should send so as to have them shipped in November. They go safely by mail.

I wish a good situation as bee-keeper, —the South preferred,—to commence in November. I understand nursery business as well. Am a Baptist minister, and would like to get near some church without a pastor, or in some destitute neighborhood. Address, ROBERT T. JONES,
Flat Rock, Henderson Co., N. C.

☞ As many are enquiring how to introduce queens, we here give the directions as printed in Nellis & Brothers' circular:

"Have tried many ways of introducing, and consider the following *much* the best. Remove the old queen and in 7 days (not longer than 9), cut out *all* queen cells, close up the hive, roll the Italian queen in honey and drop her into the hive, through a small hole. Do not disturb the hive in 48 hours. If directions are followed, this method always succeeds. Many object that stocks should not be queenless so long, but we argue that very little is lost. If while the stock is queenless, they fill the hive with honey; extract until the queen has plenty of room. She will then rapidly fill it with brood. If honey comes in fast, extract again in 4 or 5 days. In this way she will soon be very prolific. By other methods her privileges are often disputed, and she is persecuted until she loses her fertility or life, unless the owner takes active measures for her safety."

☞ Last spring M. M. Baldridge with his brother went to Alabama to take charge of an apiary there. We regret to learn that on the 16th ult., after a week's illness, his brother died of congestive fever. He was a promising young man, and leaves a large circle of friends to mourn for him.

Honey Plants.

QUESTIONS ANSWERED BY PROF. BESSEY, IOWA STATE AG'L COLLEGE.

I send you a specimen of a plant that bees in our part of the country work on from the 10th of September until November. They leave buckwheat for it. Please let me know if the honey from it is of a good quality; it appears nice as far as I am capable of judging. I would like to hear a good report from it, as it is a never-failing crop with us. L. W. LEWIS.
Page Co., Va.

The plant referred to is a species of Aster or Starwort. On account of its many flowers it has received the name of *Aster Multiflorus*. It may very properly bear the common name of the Many Flowered Aster, or Many Flowered Starwort. All the Asters are good honey plants, and as they come into bloom so late in the season, and continue so long, they fill a place unoccupied by any other, with the exception of some of the golden-rods.

Here is a twig of a plant which seems to be excellent for honey. It commences to blossom in May, and the bees work on it from morn till night, in wet and dry weather, and it will doubtless continue to blossom on till frost. There was only a little of it growing along the fence by the roadside, and I never noticed it until last year. I would like to know the name of it. It grows from two to three feet high, with many stems from the same trunk; the rest of the description you can see from the specimen. T. W. LIVINGSTON.

The fragment of plant belonged to the Common Motherwort.(*Leonurus Cardiaca.*)

The sample of weed I send you grows from 3 to 4 feet high; it smells like honey; hundreds of acres are covered with this weed during the summer—enough pasturage for 5,000 stands of bees. H.

This is a species of *eupatorium*. It is a near relative of white snakeroot, and as it has no common name, it must be known by its scientific one—*Eupatorium Serotinum*.

Enclosed is an insect—is it a bee-killer? Also something that my bees are depositing at the entrance of the hive. I never saw anything like it before.
Paoli, Ind. B. M. LINGLE.

The enclosed insect is, as you rightly surmise, the bee-killer. The specimen was a magnificent one, being fully an inch and a half long, and having wings nine-tenths of an inch in length. When living it no doubt caught and killed many a bee.

The material carried out and deposited at the entrance of the hive proves, upon microscopic and chemical examination to be wax. Its odor is unpleasant, suggesting the idea that it may be excreted, undigested wax which had been eaten by, possibly, the worm of the bee moth. Possibly, also, it may be foul wax which the bees cut away and carried out. Its finely divided state favors this idea.

I send you several cotton-wood leaves; on the underside of which you will notice small excrescences or secretions. Our bees gathered "*pollen*" therefrom for nearly a month, last fall. What is it?
Los Angeles, Cal. JNO. R. BRUCK.

The growths on the backs of the cotton-wood leaves are of Fungoid origin. To students of Fungology they are known under the name of *melampsora populina*, or "Poplar Brand." They belong to the same great group of the Fungi, as the Rusts, Smuts and Cluster Cups. Is our friend quite certain that the bees really gather and use this Fungus instead of pollen? If true, it is an interesting fact. Will he not examine into this point with the greatest possible care, and report the result of his observations?

James McG. Fraser, of San Diego, California sends a specimen of "a honey producing wild plant" which he says "grows about three or four feet high in bunches." He states further that it is very abundant in San Diego County. He asks for its name through THE JOURNAL.

It is known as *Hosackia glabra*. Torrey. It is a near relation of common clover, and like it has tri-foliate leaves; the flowers which are yellow, are in small clusters along the flowering stem. We know nothing personally of its honey producing qualities, but give it on Mr. Fraser's authority.

Inclosed is the sprig of a small tree that grows here, known as yellow wood. It yields more nectar than any other tree or plant here. Its foliage is handsome, and its bark smooth and white. It is one of the most desirable trees to transplant either for ornament or honey. I could furnish scions or seed in any furnish very reasonably. T. E. SHELTON.

This sample is from what is known as the alder buck-thorn (*Frangula Carolini-*

ana). We know nothing of its honey-producing value more than what Mr. Shelton states. It could not, in all probability, be grown in the North as it is too "warm blooded." Do our readers know anything more of it?

☞Since our last issue, we have spent a few days with the Apiarists of Kane county, Ills. We found them in good spirits, with favorable prospects for large increase and heavy yields of surplus. To our friends, George Thompson, of Geneva, and J. M. Marvin, of St. Charles, we are indebted for an excellently arranged programme well carried out, by which we (the trio) visited nearly all the bee-keepers of that county, and inspected their apiaries. With Eugene Otis, of Batavia, and J. Oatman & Co., of Dundee, we spent a very pleasant time. At St. Charles we met friend Wheeler, editor of the St. Charles *Leader*. As a county newspaper the *Leader* is a PRODIGY—and shows what earnest men can do in that line—though but few ever reach one-fourth of its proud success!

☞A bee-keeper of Northern Illinois says that king birds do not eat bees—that he has watched them, and has often seen them catch the bees, suck out their honey, and then spit out the bee itself. He avers that it is the honey only that they are after. Let others who have watched them send us the result of their observations.

HILL'S WINTER HIVE is on exhibition at our office; so arranged that the cap or cover in winter may set down entirely over the hive, thus making a double walled hive for out-door wintering. In the section boxes for surplus is a neat device for starters. The upper bar of the frame or section has a slit about three inches in length cut through by a very fine circular saw, and a thin plate of wax is let down into this, and the upper part melted down to hold it in place. Also

HILL'S HONEY EXTRACTOR. The frame is made of gas pipe, so the entire machine weighs only 12 pounds. It has only three legs, so will not rock on uneven ground.

PEABODY'S EXTRACTOR stands in our office, and we have had one of these in use for years. For anything we can see, the one we have is just as good as the day we got it. It is easily cleaned, as the wire cloth frame lifts out, and the rest is as easily cleaned as a wash boiler. The price has been reduced to $10.00.

Secure a Choice Queen.

We will hereafter send a choice tested Italian queen as a premium, to any one who will send us *five* subscribers to the AMERICAN BEE JOURNAL, with $10.00. This premium, which gives a $5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send post-paid, a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

WHEN your time runs out, if you do not wish to have the AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

SEND POSTAGE STAMPS:—As silver takes the place of fractional currency, and something convenient to enclose in letters for small amounts is needed, we suggest postage stamps of 1 cent and 3 cent denominations. If folded carefully to about the size of the envelope, they will come even more securely than currency, and our business demanding large amounts of stamps, will render them as acceptable to us as fractional currency.

Correspondence.

For the American Bee Journal.

My Experience with Feeding.

The printer made a mistake in my letter on page 78, March No. In line 17 they have "*foul* center combs," instead of "four center combs"; there was nothing foul about them, they were nearly as bright as when built. If you will look over my article on page 94, April No., you will find that Mr. Sargent's bees have been in three weeks instead of two, as stated in your remarks; and the shortness of the time that C. E. S. had had his bees in when he asked for the instructions, is the very reason why he should have been told to put them on their old stands. Mr. Elwood is certainly mistaken in his statements at the North-eastern Bee-Keepers' meeting, about bees not using propolis till late in the season (in this section at least). I had ten late swarms hived in old box hives last fall, with two one inch holes in top of each, according to Quinby, before he took to frame hives, and about the first of April I found several of them were getting quite light, and thought I would try A. I. Root's crushed sugar plan of feeding; so I made boxes of plastering lath suitable to cover one row of the holes, and gave each hive two ounces of sugar, laying it over the holes and on the spaces between them, and covering the whole with the box; four days after I examined them and found that seven of the hives had cleaned up all the sugar; two had a little left, (which were the heaviest of the lot), and the other had not eaten any that I could discover, and this was the one spoken of on page 78. I suppose they killed their drone-laying queen about the time they did the drones, as they quit carrying meal about that time, and I have found that queenless stocks will not carry meal. I had seven of them in April, none of which carried a bit of meal. But to return to the sugar, I filled up all the boxes again, and the seven cleaned theirs out as before, the other two eating but little. I filled the seven boxes every few days, till the fruit trees began to blossom, and they quit eating, and I did not look at them till May 1st, which promised to be a very cold and disagreeable day. I found the boxes all glued fast to the top of the hives, and the sugar all gone, except the two heavy ones, and they had glued up every crack around the sugar that that lay over the holes, so that I think they had them air-tight. I filled up the boxes again, and they have eaten it all out and are ready for more. I think they have bred up very fast, as they seem to be getting very strong, some of them having their combs entirely covered when the hive is raised. I succeeded in wintering two young queens in one of N. C. Mitchell's "rough and ready hives," that I had used for rearing queens through the summer. They are made with frames fitting tight at sides, and a sliding board at each end, which (after the bees have sealed the joints between the frames) makes them double walled all around. There are nine frames, 12x12 inches, and can be eleven, by taking out the loose end boards. I tacked a piece of wire cloth to one side of a frame (about half full of capped honey) so that it fitted tight on the bottom board, for a partition between the two queens; gave each three cards of comb and plenty of bees; put the false ends up to the combs, and covered the frame with several thickness of carpet, and filled the ends with the same material. They were left on their summer stands. When I opened them in April, they had eggs and brood in all stages. I doubled two queenless colonies for each queen, then added them and these bees, and they are doing well. The last week has been quite cold, with a good deal of rain. C. T. Smith.

Clinton Co., Ill., May 9, 1876.

For the American Bee Journal.

Can Bees Hear?

In your last issue, J. D. Kruschke says a good many things that are true in his article headed "Can Bees Hear?" I am not prepared at present to say whether bees can hear or not, am waiting for further light upon the subject. We all know that most bee-keepers in this country have discarded the use of bells, horns and tinware, from the fact that swarms will settle, as a rule, of their own accord, when not disturbed; but whether they will alight sooner by making a noise, is more than I can say, for I never tried it.

We all know that a great many animals can be taught sound for various purposes, but I have never heard of insects being controlled by the same means, except by the man that *whistled* his bees down. This was taken as a good joke at the time, and created a good deal of merriment. J. D. Kruschke, however, is satisfied that bees can hear, but the inference he draws from his experiments is not quite satisfactory to me, at least. The sense of feeling or touch is very acute in the bee. Now I would ask if it is possible to hold a frame of bees up before you as if for inspection and give "a rather loud shout," without *jarring* the bees? Let any person take hold of your hands, hold them up, let them shout, you note the result. Again, suppose no jar was felt by the bees from the body of the person holding the frame, will not the shout produce a concussion of the air sufficient to produce the effect described, as much, or nearly so, as if it

had struck the drum of the ear? I have heard it stated that a gun fired at an absconding swarm will bring them down. Is it the sound or concussion that produces this result? I merely throw out these suggestions for him to think over, hoping he will continue his experiments and give us the result. ARGUS.

For the American Bee Journal.

Hiving Swarms.

In large apiaries, and where natural swarming is practiced, every bee-keeper knows how important it is to get swarms hived as quickly as possible, to prevent several swarms from going into one mass.

I practice as follows: All my swarms are caught in a peach basket on the end of a pole. Take a basket and bore the bottom full of inch holes, and cut away quite a good portion of the staves, so as to make it as open as possible; stick the inside full all around on the staves with small strips of comb, a small leather strap, six or seven inches long, put through the bottom of basket and nailed on the inside, with a small harness snap on the other end of strap. Then fasten to the end of pole, a ring, snap into the ring and your basket hangs in the form of a bell. Take a light pole, with hook on the end, and you have all that is required.

We suppose your hives are already just where you want them to stand, ready to receive the swarm, some brood combs having been put in the hive. Now then, this hive has a cover to cap after the fashion of a band-box. Just as soon as a swarm is on the wing and they have selected an alighting place, take the basket in one hand, hook in the other, and when about a quart has settled to the tree, shake with hook and put basket in the spot. Just as soon as the bees begin to gather on the basket, lower the basket down about one foot or so, and keep the branch shaking with the hook, and in less than five minutes you have them all on the basket. Now carry to hive, and one jerk will drop them on top of the frames. Put on the cover and your swarm is hived and out of the way, and not a score of bees will take wing after they are put in. Towards evening you must put them in whatever shape you want them. If for a honey stock, fill them up with combs and brood, and put on boxes.

This will be found much more expeditious than the other way of shaking them down in the front of the hive. We have practiced this for quite a number of years, and could not get along now with the old way.

On page 67, March No., first column, near the bottom, is an error. It reads "Hive ten or fifteen swarms in August." It should read, "*Have* ten or fifteen swarms," &c.

To clean glass that has been used in boxes and is daubed with propolis; put the glass into a tub and cover each layer of glass with unleached wood-ashes; fill tub with soft water; let stand twenty-four hours, and it will wash as easy as new glass. J. BUTLER.

Jackson, Mich., March 16, 1876.

For the American Bee Journal.

Bee Notes from North Carolina.

We have had in February and March a heavy fall of "honey dew" on the pines, made by a plant louse about this size when grown, ○, which turns into a fly of this length ———, very much like we see winged ants, only black and a little smaller. Some of my stocks are so heavy from it, as to encroach on the breeding space.

The honey is white as white clover honey, of a good flavor, and seemingly as true a *honey* as that gathered from the blossoms. Cold weather does not seem to affect the insects, as during its continuance we had ice freeze in small vessels two inches thick, and next day when the sun came out they were as lively as ever, and the bees buzzing as thick as usual.

Have you ever seen any "sourwood honey?" It's far nicer than white clover, and of a more delicate flavor, yielding a comb that is so fragile it's difficult to separate it in the mouth from honey. Our principle crop is of this, and but for the fact that I have a home demand for all I can make, would have sent a lot North on trial. Apiculture as a profession has been attempted in this state often, but has never yet proven a success. It cannot be on account of want of honey plants, for we have every essential for success. There is all along this mountain slope a continual succession of bloom from *frost* to *frost*.

During the summer we have the sourwood, commencing about June 15th, and lasting till August 10th, when buckwheat commences, to be succeeded by the "ironweed" or "tanglefoot" which lasts long after frost.

Summer before last, I knew of two Italian stocks that increased to ten; all *filled* American hives, with a surplus from six of much honey. All wintered well, and were in the hands of a plain farmer who had never seen a Quinly or Langstroth until mine was borrowed.

My success for three years has been uniformly all I could desire, barring a few mistakes the first winter.

No difficulty in wintering here, and have never heard of a case of foul brood. Have Italians entirely, with the exception of what black bees I may buy, but always Italianize as fast as possible. The hybrids work as well for me as the Italians, but as there are no bees except wild

ones near me, I find no difficulty in keeping my stock pure.

Tell your readers a rich new country is open to them; a cordial welcome awaits them; little cold; small taxes and a genial climate.

In honey, the coming season, I intend to show that the old North state is as good as California, and its honey *better*.

Your April JOURNAL is excellent, and there is an idea in it which I would particularly endorse, and that is to divide *late* in the season. I use the extractor with frames 17½x11¾ inches, and keep the bees comb building *all* the time, and by the time there are fifteen or sixteen frames to a hive, I divide and have ample comb to give both hives, besides having the advantage of doubly strong swarms during the height of the honey season. No trouble to secure straight combs.

Correspondents will cheerfully be answered if they *enclose stamps* for answer. I have no axe to grind, nothing to sell except what surplus queens may be raised, but will be glad to furnish any information to lovers of bee culture, that mayhaps induce a few to cast in their lot with us.

RUFUS MORGAN.

For the American Bee Journal.

Bee Keeping No. 2.

ED. BEE JOURNAL:—On April 6th and 7th last, I set out 200 stocks of bees upon their summer stands, and found them in extra good condition, some of them having been set out in February, and some in March, and returned again. They were wintered in cellars under dwellings. They had been fed, up to the time they were set out, 1,300 lbs of choice comb honey, mostly small frames, such as I use in supers, by placing super on in its natural position, containing one, two or three frames pure honey. This process insures enough to winter upon, and holds the cluster of bees at the place where they first commenced breeding; after being set out they can get their stores from the outside combs, etc.

Since my last, I see there has been a very largely attended bee-keepers' convention in the State of New York. I do not wish to be personal in the least, or to discourage the efforts of bee men to promote or advance the science of managing bees, but I must say that I fail to find anything in the report of the proceedings of this convention to advance the science of anything, or in the least beneficial to any one engaged in any kind of business.

I have been waiting very patiently in hopes that some of your correspondents would discuss these proceedings somewhat, but there has nothing of the kind come under my observation.

First, let us take a look into the question drawer. The questions seem to be weighty enough, most of them, but the answers are so very limited and inadequate, and some of them so simple, that it is a mystery to me how or why they ever allowed them to go to press at all. For instance, take question first:

"What is the best method of controlling swarming fever?"

Answer.—"The free use of the extractor, or by making an artificial colony."

Why try to control the swarming fever if you want increase? On the other hand, if you don't want any increase, why make the artificial colony?

Now, this talk about controlling the swarming propensity of bees is all a humbug, from beginning to end! If the season is propitious, and your bees come out strong and healthy in the spring, they will swarm more or less, and there is no effectual way of preventing it; and when I hear a man talking about a non-swarmer, or a non-swarming attachment, etc., etc., I put him down as a knave or a fool.

The point for the bee-keeper to decide, at this season, is whether he wants honey or increase. If you want the latter, irrespective of the former, increase them artificially. If you want the former, irrespective of the latter, give them all the surplus room that you think they will go to work in, and let them entirely alone. If you want both honey and increase, your operations will have to be controlled entirely by the season. "Be ready to act," will be the watchword.

Question 2d. "Is it an injury to bees to have more forage in the spring than they need for brood raising?"

Answer.—"Yes."

This is a very peculiar idea, indeed. If there is such a place on this earth, I would like to be informed where it is. I have been looking for it for the past ten years.

I will skip the other questions up to the 13th.

Question.—"What is the best method of preventing after swarms?"

Answer.—"Introduce a young, fertile queen."

Now, here is truly a display of wisdom. I did not suppose there was a man on earth, at this day and age, but knew better than to talk such nonsense! I attempted this once, my object being, not so much to prevent after swarms, as to Italianize. After searching and destroying every queen cell I could find, inserted one dozen choice queens, thinking this would be enough to commence with. Well, I succeeded in getting two introduced out of the twelve; two or three more swarms succeeded in getting their own queens, having a cell concealed. The balance I fixed up by giving pure brood from which to raise queens. I would not have felt so very bad about the operation had I succeeded in saving the other ten queens, but alas, these little

workers made angels of all of them! To prevent after swarming in any hive, on any place, whether you have one swarm or five hundred, hive the first swarm, and after you become satisfied that you have got the queen with them, place the hive upon the old stand, and move the old stock just as far as the limits of your yard will allow you, no matter if twenty rods, or even forty. All of the old bees with swarming propensity will leave the old stock and join the new one, which prevents after swarms very effectually. No moving five or six feet, as I have heard recommended; it won't always prevent after swarms. The old bees find it too readily. Put on your surplus receptacles the third or fourth day after hiving, and if there is any surplus made, this stock will make it. A. BEEASTICUS.

[We are sorry our correspondent was not pleased with the report of the New York men. We thought it good reading. The meeting was one of earnest and successful men. We have no doubt they will promptly retract, whenever they are convinced that they cannot control the swarming propensity.—ED.]

For the American Bee Journal.

Drone Brood Only.

I commenced bee-keeping in the spring of 1875, with four weak colonies of black bees, yet I received one swarm from each. But one of the swarms lost its queen by accident; another that swarmed on the tenth of July was properly hived and placed on the stand; but the following morning I observed some returning to the mother hive. The remaining bees began to work earnestly for three weeks. Then I noticed that there were more drones than workers. On examination I found the cells to contain only drone-brood. This put me somewhat out of patience and I let them experience brimstone. The remaining six hives I wintered on their summer stands. They endured the winter better than I had expected; but the winter was very mild, even so that they worked in February. This spring, to my astonishment, I found three colonies containing hybrids. The fruit trees were in bloom for eleven days, and the bees are busily working.

Please account for the aforesaid hive containing drone-brood.

J. W. BITTENBENDER.

Knoxville, Iowa, May 16, 1876.

[Without knowing more of the particulars, we cannot say just what was the matter, but in some way there was either a fertile worker, the queen being lost; or a young queen, which failed to be fertilized, and hence produced only drones.—ED.]

For the American Bee Journal.

What Can Be Done?

MR. EDITOR:—There are a few facts relating to the success of bee-keeping that are not duly kept in mind:

1. Bees cannot make honey; they can only gather it.

2. Of the honey gathered, the first stores furnished must go to sustain the colony during the time of labor, and the season when the fields afford no flowers for honey.

3. A colony of bees will consume from 60 to 100 lbs. of honey per annum.

4. If more colonies of bees are in the field than the field yields 200 lbs. per colony, they cannot average 100 lbs. of surplus.

5. If more colonies than the field will average 150 lbs. of honey per colony, they cannot average 50 lbs. of surplus.

6. If there is but an average 100 lbs., a part of the colonies will give some surplus, and secure winter stores, and some will starve to death.

Now, let us examine Otto Halblieb's field given in the last issue of the JOURNAL, page 119;

170 old colonies require	17,000 lbs.
115 new swarms	11,500 lbs.
$500 at 20 cents surplus	2,500 lbs.
Amounting to	31,000 lbs.
Deduct for failure to carry all through the winter	1,000 lbs.
Then we have	30,000 lbs.

as the product of the field.

7. One hundred colonies in a properly prepared non-swarmer hive, would gather the field and give 20,000 lbs., in surplus, $4,000. They would consume at 100 lbs. each, 10,000 lbs., $2,000.

8. The product of the field is 30,000 lbs. One class of hives consume one-third of the product of the field, and gives two-thirds in surplus. In the other case, eleven-twelfth parts are consumed by the bees, and one-twelfth part given in surplus.

9. It is not necessary to inquire which is best, one-twelfth, or two-thirds of the product of the field, $4,000 or $500. That requires no guessing.

10. But this is not all that is to be taken into account. In one case you have to watch, and care for, 170 stands of bees, and hive 115 new swarms, furnishing from $100 to $500 dollars worth of hives to put in your new swarms to starve to death in the winter, costing, according to the quality of the hive.

11. On the other side, you have to place your hives in the field, and the surplus boxes in place, in their season; and remove them when filled, supplying empty boxes in their place.

12. Your colonies will hold good, 10, 20, or 30 years, or more. 100 lbs. of honey for

the years' consumption of each colony may be a large estimate; but I think the winter's consumption, will not exceed one-third of the annual amount used.

JASPER HAZEN.

Woodstock, Vermont, May 2, 1876.

[According to this showing, certainly bee-keeping is a very profitable business. Does friend Heddon know of any investment he can make that will yield better than $4,000 from 100 colonies? Here are the *figures* to show that if Otto Halbleib had brimstoned 70 of his hives, and kept the remainder from swarming, he would have averaged 200 lbs. surplus per hive.

Still it is easy to say what *would* be. The question is "Who *did* ever get an annual yield of 20,000 lbs. from 100 colonies? Those having done so will please rise. Our observation has been that the men who have made the most money on bees, have invariably kept a large number of colonies.—ED.]

Maury County, Tenn., Bee-Keepers' Society.

From the report of proceedings we copy the following:

The above named society met at the residence of Wm. J. Andrews, on Saturday, May 6th. Present:

W. S. Rainey, President; C. C. Vaughan, Vice President; Wm. J. Andrews, Secretary and Treasurer; S. D. McLean, Travis McLean, Gen'l A. Bowen, D. Staples, R. H. Caskey, E. C. Overton, T. T. Martin, W. F. Moore, N. B. Sowell, J. C. McGaw, T. A. Sawell, W. R. Gresham, Isaac M. Byers, T. A. White, M. G. Grigsby of Giles Co., J. F. Love, and W. W. Oliver, of Marshall County.

Mr. Love was called on to state what experience he had had in rearing queens by grafting or inoculating.

J. F. LOVE. Had reared some queens in that way. It is done by removing the queen of a black or hybrid stock, and allowing them to construct queen cells. When these cells are three or four days old, remove the grub or larva, and insert a grub or larva of the same age from the worker cell of the queen it is desired to rear one from. He thought it about the best way to Italianize an apiary.

MR. STAPLES. With proper management, do you regard it a sure process?

J. F. LOVE. If proper care was taken it was certain. Eli Coble had succeeded with it.

M. J. GRIGSBY. Had transferred quite a number, and had been successful with fully one-half.

C. C. VAUGHAN. I disapprove of the whole arrangement. Thought it would keep stocks queenless too long. It was best to rear and insert queen cells.

W. J. ANDREWS. While Mr. Staples, Mr. Vaughan and myself were all partners in queen rearing, we would have to differ upon this question. He took issue with Mr. Vaughan, and thought in many instances a colony might be supplied with a choice queen sooner than by waiting for the rearing and inserting of a cell. Only yesterday he had found a stock queenless, and with cells about four days old. In that case he had cut off the cells and inserted eggs from a choice queen. Whereas had he transferred he would have gained four days time.

Mr. Staples then went through the process of catching and caging a queen for market, removing and inserting queen cell, and other things pertaining to the business.

Dinner being announced, all partook of it, after which Mr. Staples went through the process of transferring a stock of bees from a box to a movable frame hive; at the conclusion of which the Society was called to order. All expressed themselves well pleased with his manipulations, and no one received a sting during the whole day.

On motion, the Executive Committee were granted until the regular meeting in July to prepare their report.

PRESIDENT RAINEY. Mr. Oliver has been telling me about his crop of honey. I would like to have him make a statement of it to the Society.

W. W. OLIVER. Last Spring commenced with ten full colonies—four double story and two nuclei; increased to 26 during the season: doubled to 20: extracted 2,100 lbs. Lost only one, and that a nucleus. Use the Langstroth frame. Don't know anything about box honey. Waited for and took sealed honey.

M. G. GRIGSBY. Thought the experience of others who had not succeeded so well should be given also. (He was then called on to give his.) Had 26 colonies: doubled them, and extracted 1,800 lbs.

J. F. LOVE. Had 35 two-story and 38 single-story hives: got 4,000 pounds: lost none.

S. D. MCLEAN. Had 38, mostly deficient in comb: yield, 2,000 lbs.

A. BOWEN. Was Italianizing. Extracted from 5 only. Got 25 pounds to the hive. Lost two. Balance of his stock, 26 in number, in good condition.

C. C. VAUGHAN. Had run for queens and increase. Lost one.

D. STAPLES. Had run for bees and honey. Had no record of his crop.

R. H. CASKEY. Had run for bees. Started with 24. Lost 1.

T. T. MARTIN. Had 40. Lost 19. His were mostly in log gums. All he lost were in log gums.

R. H. CASKEY. I move that each member note the number of hives he now has on hand, and report at meeting in October the increase and amount of honey obtained.

M. G. GRIGSBY. I move to amend the motion, that a record be also kept of the Spring losses, and a report made of them.

The motion with the amendment was adopted.

R. H. CASKEY. I want to Italianize, and would like to know the best time to do so.

D. STAPLES. Do it immediately after the poplar harvest.

T. T. MARTIN. Is it advisable to divide when transferring?

D. STAPLES. If you want to increase in bees, yes.

C. C. VAUGHAN. I move we now adjourn, to meet the first Saturday in June at Culleoka; which, being seconded, was adopted.

WM. J. ANDREWS,
Sec. and Treas.

For the American Bee Journal.

Wintering in the South.

Our travelling bees are now back at home, after wintering in Tenn. We shipped them south about the 1st of Oct. and back 2d of May. The round trip, together with expense of keeping them, amounts to about $100 per colony. Loss in wintering eight out of 113—four of them only lost queens. Advantages of shipping, are the certainty of wintering safely, and the increased amount of honey gathered in fall and spring in the south. The winter has been mild and the spring late, but notwithstanding this we are satisfied that the experiment has paid us, and will repeat it next fall. BARNUM BROS.

Southport, Ind., May 15, 1876.

For the American Bee Journal.

Thoughts Suggested on Reading the Journal.

Having been a close reader of the JOURNAL for the last two or three years, I would like to make a few notes. I am a beginner in the bee business, and consequently, of limited observation. The article on "Artificial Swarms," in the May number, is very explicit, and is just what has been needed by amateurs. The difficulty of finding the queen is often felt.

The article on "Black Bees Running Out," certainly treats the subject fairly; but the cause of bees dying out in this section, is not by "in-and-in breeding, causing the bees to deteriorate," but from other causes. Where are the thousands of colonies that were formerly found in northeastern Kentucky? Did they become weak and sickly "from in-and-in breeding?" No; they all, or nearly all, died in one winter. The disease now seems to have spent its force, and they are on the increase again. I will give you the expression, in his own words, of once the largest bee-keeper in this section, as to the cause of the mortality among bees: "*When the Sorghum came my bees went.*" I have talked with others on the subject, who thought that the Sorghum was the cause of the bees dying.

The article on page 137, "Can Bees Hear?" can be answered in the affirmative, without a doubt; if the writer will take a bee on the outside of a hive, at the entrance, when no other bees are in sight, fasten it by the legs causing it to give a note of distress, he will be apt to be painfully impressed with the belief that bees can hear!

Two queens in the same hive, is a rare thing, but I have had one such, the past winter; one queen was killed about March 11th, the other one is living and very prolific.

Cobalt mixed with bits of old comb, put in a box with some woolen rags, will destroy a great many millers and moths. Try it. To keep out the ants, set the hives on legs; place the legs in shallow dishes or shallow tin boxes, with water in them, and they are safe from ants. Of course, they have to be filled up with water, as it evaporates. Deep dishes will drown some bees, and that is objectionable. In making observatory hives, and for other purposes, it is necessary sometimes to get a hole through glass; glass can be softened and made easy to drill, by taking a small piece of gum camphor, placing it on the place to be drilled, with a few drops spirits of turpentine. Use the point of a file for a drill, or other hard instrument.

Mason Co., Ky. W. W. LYNCH.

Los Angeles B. K. Meeting.

The Bee-keepers' Association met at the Los Angeles Apiary on May 6th, 1876, J P. Bruck presiding.

The minutes of last meeting were read and approved.

On motion of Mr. Davidson it was adopted to establish a bee-keepers' library, consisting of manuscript papers, written for the Association, bee journals, periodicals and books, pertaining or useful to bee culture. Also, that Mr. N. Levering be appointed librarian, with power to select an assistant librarian, the latter to reside in Los Angeles. Mr. Levering said he should be glad to receive samples of honey, which he would keep convenient for inspection by any body interested in thematter.

Mr. J. W. Wilson spoke of establishing a fruit canning establlishment to utilize our second grade honey.

The Secretary distributed the rest of the comb-foundation on hand.

Mr. L. L. Buttler, of the Los Angeles apiary, joined the Association.

The meeting then adjourned, to meet at Leck's Hall, in Los Angeles, at 1 o'clock on the third Saturday in June.

W. Muth Rasmussen, *Secretary*.

For the American Bee Journal.

How to Propagate and Increase.

How to Propagate Bees and Increase Colonies Without Materially Injuring the Original Swarm.

I have constructed, and am using, a combination of sections, made of a skeleton frame filled with straw, bulrushes or flag leaves, to absorb the moisture that accumulates from the breath, and allow the heat to pass from one section to another. These sections are to be placed upon a shelf, side by side, in a bee-house made suitable for their protection, and to remain both summer and winter; an extended entrance of about 10 to 15 inches leading to each section, each painted with a different color for the purpose of directing young queens to their respective locations, when they return from their bridal tour. The house may be made to contain from four to fifty sections, or colonies, proportioned to the number desired to be kept. If one colony is put into the house, it should be enclosed in the inside of the house, so the animal heat can be retained until sufficient swarms are made to keep up the temperature suited to their necessities. The manner of operating with this combination of sections, is as follows:

I first build up the old colony early in the season, to its full working capacity, by giving them all the assistance they need. As soon as the section becomes crowded with bees for want of space, or brood chamber, I give them more side room by setting 6 of the 11 frames over into section No. 2, with the bees adhering to them, leaving the queen in section No. 1; placing the frames containing the brood of both sections, to the sides adjoining each other, so as to economize the animal heat; and fill up the balance of both sections with empty comb, thus giving the old queen plenty of cells in which to deposit her eggs. The old worker bees will return to their former location, and the young bees rear another queen, which will be matured as soon as the workers are of sufficient age to go to the field to gather honey; and when No. 1 and 2 are full, No. 3 is added and one-third of No. 1 and one-third of No. 2 is taken, containing eggs, or larvae, is set over into section No. 3, with the bees adhering to them, leaving the queens in their old sections, replacing with frames and empty comb; and so continue to increase the sections as the bees increase. A queen should be reared for each section, and divide the frames as near equally as may be, always giving plenty of brood to the new colony; and by thus extending the sections and retaining the animal heat, with a prolific queen in each section, the worker bees are rapidly increased, affording plenty of laborers for the field during the whole honey harvest.

We may increase up to five swarms from each colony if they are in a prosperous condition early in the spring. This manner of management keeps the colonies strong and prosperous. They never dwindle away for the want of animal heat. The bees being scented alike, there is no fighting or difficulty in equalizing the colonies when needed. The result of this manner of bee-keeping, is that we have created several new colonies without materially injuring the old colony, and provided each section with a queen, and in the mean time the old workers of each colony continue to labor in their respective sections, and assist each other in generating heat for the benefit of the whole community. All the labor of overlooking and handling the bees, is performed inside the bee house in such manner that the entrance of the bees is not interfered with, overcoming greatly the liability of being stung, or the danger of introducing robber bees to molest. The house is so arranged that the bees may be overlooked and examined rainy days, without injury to the bees, thus saving time. The bee house consists of 4 to 6 shelves, two on each side with a space between sufficiently wide to handle the frames and sections with convenience, and space between the shelves for the sections and the honey boxes. The walls are doubly filled with six inches of saw dust, with double doors. The inside door is made of a frame covered with wire cloth, for summer use if needed. The greatest objection to some bee-keepers is, that it is patented, which, in the minds of some penurious persons, is enough to condemn it. Edgar.

[The man who invents something of real value, is entitled to protection by letters patent. It is difficult, however, to decide as to the value of the article, *as* a patented article, unless information is given as to the patented features. The object of the American Bee Journal is to give all the information that can be obtained that shall be useful to its subscribers. Whoever makes any discovery that to him seems valuable, should certainly have space in our columns to give others the benefit of his discovery. If, however, a patent makes the improvement private, instead of public property, then it is a question as to whether notice thereof should be found in the advertising or reading pages. There are occasional cases in

which patented articles are of such unquestionable value, that we should consider ourselves lacking in duty to our readers, did we fail to keep them fully posted. As an instance, take the movable frame, the patent on which has bu lately expired. In the long list of patents that have been obtained upon hives, however, we believe there are very few that have obtained general favor among bee-keepers. We publish the preceding article, hoping some hints may be gleaned therefrom, of general interest.—ED.]

Shall Farmers Keep Bees?

A PAPER BY JULIUS TOMLINSON READ BEFORE THE FARMERS' INSTITUTE AT ALLEGAN, JAN. 11, 1876.

Were we told to-day that something of value was within our reach, to be had for the gathering; that plenty of laborers were ready to bring this to our door and put it into the most convenient form for our use; and that this labor would be freely performed, we would be deeply interested to know what that substance was and who were the laborers. The most beautiful of the processes of vegetable life is the opening of flowers; and in their recesses is distilled the precious nectar called honey, the substance of value. In the development of insect life so busily carried on about us, is produced the bee, whose natural instinct is to gather the honey from the flower—he is the laborer. Honey is beautiful to look upon and is equally pleasant to the taste. It is frequently spoken of in profane and sacred writing, and always with favor. Honey exists in plenty all about us, and although some believe to the contrary, still is is my firm belief that it exists in sufficient quantities to supply a few swarms on every farm. Bees are the only agents for the gathering of honey and they will, if room is provided, store enough for their own sustenance and a handsome amount for their owner. They also increase and form new colonies and are content with inexpensive homes. There is no question about the profit of bee-keeping where all conditions are favorable and all appliances are at hand. But there is a dark side to the picture. Some apiarists claim that bee-keeping can only be properly pursued as a special business—"that it does not agree with farming or anything else." This may be true from a certain stand-point, but among Allegan county farmers the facts are quite to the contrary Although a bee-keeper, wishing to make all he could out of his bees, he had no sympathy with any feeling which would discourage farmers from bee-keeping. There are, however, real difficulties even here. (1.) Bees, are easily irritated and their stings are, to some people, very dangerous. They must be handled very carefully for once offended they do not soon forget it. (2.) The bee moth is an insect which always infests the hives and can never be entirely destroyed. It lives in the comb, consuming the wax and sometimes destroying the swarm. It is like a besetting sin, always ready to take advantage of any weakness of the swarm or carelessness of the keeper. (3.) Foul brood is a disease that is incurable so far as is known at present; and although it has never prevailed in Michigan there is danger of its introduction and it must be considered as one of the risks of bee-keeping. (4.) All these ills are insignificant when compared with the terrible disease called dysentery, which, though of recent origin, has spread all over the northern states, killing, each winter and spring, at least half of the bees. So deadly is it that Mr. Bingham of Abronia, one of our most skillful keepers, has taken his bees to Tennessee to escape it. But whatever be the manner of wintering, the bees come out in the spring so weak that it requires great care and skill to bring them up to working condition. Of fifteen swarms he had left last spring, one-half failed to thrive and make surplus honey. Probably seventy-five per cent. of those who had bees five years ago now have none, and unless some remedy is found for this disease we may as well despair of success. There are other drawbacks, such as loss of queens, ravages of parasites, king-birds, etc. These are the hindrances, and each must for himself answer the question, "Shall farmers keep bees?" Among the requisites for a bee-keeper are steady nerves, undaunted courage, a fair share of mechanical skill, promptness, habits of close observation, and unflagging enthusiasm in his calling. All who have these qualities and a heart and purse to undertake the risks, may keep bees: but those who have them not, had better pay one dollar a pound for their honey.

For the American Bee Journal.

My Experience With Small Frames.

Much has been said about the different hives and broad frames. Bee-keeping will pay, with proper care and treatment—but I cannot make it pay with the Langstroth hive in this section. The reasons are: we must not leave more than 1600 square inches in the brood chamber in this northern climate; the ends should be tight to prevent the cold air chilling the brood in the spring; a board should be in the place of the first frame, to take out and leave room to lift out the frames; this may also be used to contract the brood chamber for a small swarm; a loose bottom board is necessary, as every bee-keeper knows;

surplus honey should be procured in about 2 lb. frames, for ready sale.

Last fall my honey put up thus took the first premium at our fair. To market, I put these little frames in boxes holding from 25 to 50 lbs. with glass in one side to show to advantage.

I have tried these small frames and must say they are perfectly satisfactory. I have 38 swarms—part in open frames and part in tight frames; the latter are every way satisfactory. I wintered in the cellar. They did well last season and wintered well. E. V. PHILLIPS.

Whiteside Co., Ill.

For the American Bee Journal.

Good Report from South Western Missouri.

For honey I think we can equal any other place east of the Rocky mountains. Bee keeping is in its infancy yet; only a very few are making it a business, and giving it the share of attention that it is entitled to among other matters. To show you and others, I will give you an account of some of my colonies last fall. One swarm came off August 11, from which I obtained 50 lbs. of box honey, and they have wintered well and are now in a fine condition. One swarmd September 7, from which I obtained 15 lbs. of box honey. One hive swarmed five times after August 25, and I saved them all over, and they are doing splendidly now. I have now 36 colonies, all in good condition, and I am going to beat some extractor men, raising honey this year. I will do it too, without comb foundations. Our bees do best here in the fall season, unless we get a honey dew in May or June. Our Springs are generally wet and cold through fruit blossoming time, and then there is a cessation of flowers through June and July, until about the time sumach blooms and corn tassels, then we get honey in abundance until frost, unless we have a very dry fall. My bees are mixed with the Italian stock. Probably some are pure. I like them better than the black ones. I go for box honey altogether. Do not like the extracting business. I can find a better way to give the queen room, than to use the extractor. When you extract the honey out of a comb, you do not leave it in a condition for the queen to deposit eggs in, but it has got to be repaired and cleaned. The loose honey has got to be licked up, and will be deposited immediately in the same cells, so the queen is deprived of using it at all.

[Your bees act differently from ours. —ED.]

My plan is to take the outside frame or frames, and cut out the honey, comb and all, and open out the brood, and place the empty frame or frames in the center, and if the honey season is good, the bees will almost fill the frames with comb in one night, which is new and dry, in which the queen can deposit eggs, before the workers get it full of honey. This idea of consuming so much honey to make a little comb is all bosh. Bees will eat just as much when they are not building comb, as when they are. The material of which the comb is built is always plenty, when the bees are well fed, and as they build the most of the comb in the night time, there can be but little time lost, and less honey. These are my ideas, and if I should learn better, I will own up, like a little man. I am in favor of progression in every branch of industry, and do not want to hold to any old fogy ideas, if I know it. GEO. H. MOBLEY.

Nevada, Mo., Vernon Co., May 15, '76.

[We think our most advanced bee keepers would consider it going back to old fogy ideas, to believe that building comb is not done at quite an expense of honey Some of them would give considerable for the secret of raising with a given number of bees, as many pounds of box honey as extracted. We shall be glad of any light to help in this direction.—ED.]

For the American Bee Journal.

Sectional Boxes.

In the March No. D. D. Palmer asked how to put on sectional boxes, or small racks to hold glass. I will give my plan:

I make my racks 6 inches square, the side pieces 5¾ long, 1¾ wide, ¼ inch thick; top pieces 6 inches long, 1⅛ wide, ¼ thick; bottom pieces ½ inch square, 5½ inches long, scant; now a rack or honey board to hold them. Cut 4 pieces 3 inches wide, ½ inch thick, 14⅜ long, and 2 pieces 20½ inches long, 5 inches wide, ½ inch thick, the two side pieces nailed through the sides into the end pieces, with No. 6 finishing nails, the 14⅜ pieces, one at each end, and the others 1⅛ of the space from each end. This frame will hold about 40 lbs. of honey. For a bottom use stuff 1¾ inches wide, ¼ thick, 20½ inches long; these are the same width as the rack; it will take 6 of them for one frame. There must be three slots cut in each side of them, 4 inches long, ⅜ inch deep, 1½ inch from each end, one in the middle of the piece; and 2 pieces 20½ long, 2¾ inches wide and ¼ thick. They need slots on one side, the same length and depth of the others. To nail them on, put one of the wide ones on first, slots on the inside; nail with "3 penny fines" to that slotted on both sides, and the last one with slots on one side, slots inside. The slots are to let the bees come up between each rack, and there is a piece under each rack to prevent them from building comb

on the under side of the racks. This makes a good honey board when on the hive. Now rack on; spread a cloth in the places for the rack; to put the rack on, put a glass 6x6 in. first; in 8 racks put the other glass. Put small wedges in against the glass to hold the racks tight together. The rack must not fill the space, so crowd them in. This is very convenient for out-door wintering, by putting a piece of cotton cloth over the holes and filling the frame with sawdust. This is to fit a ten-frame Langstroth hive. I send my honey to market in the same kind of frame, with glass in, only the bottom is tight; it shows off well in them. JOHN M. BENNETT.

Bremer Co., Iowa.

Improvement of the Italian Bee.

A PAPER READ BEFORE THE NINTH ANNUAL SESSION OF THE MICHIGAN BEE-KEEPERS' ASSOCIATION.

Gentlemen:—I wish to call your attention to a subject, though nothing new in itself, but I think of importance: viz., the improvement of the Italian bee; and I think it will be admitted by all that they are as susceptible of improvement as any other class of animals, fruits or flowers, though there may be some difference of opinion as to the best means to be put into operation for the accomplishment of this desirable object. Many seem to be satisfied when they obtain an *imported* queen, or queens from an imported *mother*; this is all very well so far as it goes, but I have yet to learn that the bee-masters in Italy have paid much if any attention to the *improvement* of the Italian bee. Now with this understanding coupled with the fact that there are a great many dark, and even black bees in Italy, there must of necessity be a very great diversity both in color and disposition; and there is no bee-keeper in this country, who has for years cultivated the Italian bee, but must have noticed the great tendency, as florists would say, to sport: therefore making all tests of purity very unreliable.

In Germany, from whence we have derived the most of our knowledge of the physiology and habits of the bee, considerable attention has been paid to the improvement of the race, and the prominent apiarists there say that the Italians are not uniform in color—not a *fixed* variety. The Italian bee, in America, has also been much improved; England has come here and taken back an improved stock of her own breeds, far surpassing the original, beautiful Italian bee.

But we must not rest with results already obtained, for we live not only in a progressive country, but in a progressive age; we must still endeavor to reach a higher standard of beauty and purity. The question naturally arises here, how is this to be brought about? In my humble opinion one of the chief means is the improvement of our *drones*. Most bee breeders have paid more attention to the queen than the drone. Let me draw your attention to the fact that cattle and fowl breeders give as much if not more heed to the male, and they are very successful in their operations. Now if we depend entirely on the queen for all the points desired, disappointment will follow.

The drone question has not, however, escaped the attention of the master minds in bee-keeping. Dzierzon says, "It is my practice always, to select and reserve only the perfectly marked queens *and drones*." Berlepsch says, "I shall constantly endeavor to preserve and breed from the finest, that is, the most brightly colored *drones*." Vogel says, "Accordingly in our endeavors to provide an improved breed, our attention must be pre-eminently directed to the *drones*." Langstroth says, "As the drones of some Italians are much more beautiful tnan those of others, we can select a stock containing such to impregnate our queens." Now I think you will see from what has already been said, that this subject has not received the attention that it demands.

There are three points which ought and can be much improved viz.: color, size, and disposition; and it will be an advantage, of course, if we can work for all the points at the same time. I have not named prolificness as one of the points, for I think, as a rule, queens are prolific enough if the conditions of the hive are all right.

Some bee-keepers seem to be under the impression that our queens are lowered in vitality as they are raised in color, but as far as my observation extends, the brightest colored are as prolific, and long-lived as the dark ones. Others again say if we breed too close, our stocks will become impaired; true, the same natural laws that govern life in all its phases govern bees, but the careful breeder can easily avoid this by exchange or new importation, and not allow his stock to run down on account of too close breeding; but we must breed in and in, to some extent, in order to bring out some points desired. The bright colored queens and bees are certainly more pleasing to look upon than the dark ones, and it is certainly a pleasing sight to see a company of young bees, for the first time, sporting in the noonday sun.

I would, therefore, urge each one, not to rest satisfied till he obtains his drones as beautiful and distinctly marked as his workers. This, in my judgment, is one of the means through which we may expect to improve the Italian bee.

GEO. THOMPSON.

KANE CO., Ill.

For the American Bee Journal.

Reply to C. P. Dadant.

Since Mr. Dadant has said that he entertains no hard feelings towards me, and as I am sure I hold none toward him, I hope our controversy may not be simply one of quarrel, but that we may bring forth a little light upon these important questions. In order to prove that extracted honey "*does* pay" Mr. Dadant cites us to the time when I got 28c to 30c for jarred honey, when I was at an expense of 10c to 15c per pound for bottling and selling it. I have not the time to spare to run back over the old journals and quote from the enthusiastic writings and reports of former days when we got good prices for our honey, and lived in high hopes of "money in the apiary." But I can remember enough to know that Mr. D. only tells a *part* of the story. I never said that I never sold my honey less than 28c to 30c, though I may have got that price for *some* of it, in those days of good demand and fair supply. One year I bought the crop of several honey producers, and handled in all about the amount Mr. D. quotes, but ere another season the bottom felt out of the demand for honey. Truly, friend D., my present opinion in regard to comb *vs.* extracted honey is entirely changed. Progression demands a certain amount of changing. I did not say that bee-keepers could raise extracted honey cheaper than the *dealer* could adulterate it. Why not be fair, and quote what I said? Perhaps I did "run out" with my customers, for two reasons: First, because my honey being pure would granulate, and *granulated honey is* NOT *a merchantable article.* Second, I found many of my customers cut off by other apiarists who had sprung up like mushrooms, and the dealers rightfully bought of the nearest producer. The way I came to get $800 worth of honey from the small number of colonies, was by the wonderful increase that plenty of empty combs, and the best season ever known here gave me. Again, I put all my time to these few bees, (and worked fourteen hours per day, too,) spent lots of money in advertising and selling, besides being very fortunate in striking a tip-top market. Why, bless your soul, I once knew a half acre of red raspberries to pay $1,600! I say "I knew it;" I *knew* the man that knew it. I was greatly at fault that I did not tell the *whole* truth, but young bee-keepers are proud and high-spirited you know, friend D.

But suppose I do *now* complain that bee culture "*will* not pay." What have "has beens" to do with "will be's?" I say that "extracted" is inferior to cane syrup for all practical purposes except sauce. Why not quote what I say, or not quote at all? Read what I quote on page 161, A. B. J., for June, 1876. I say that honey that has been all capped over for two weeks (in the hive) is superior to that which has only *just* been all capped over. I furthermore say that I believe that 99-100 of all extracted honey is more or less sour. That is, has changed more or less since extracting. Finally, Mr. Editor, if bee culture pays now, what a fortune we must have laid up when we got not only large yields, but high prices. Why, "my stars," when Hiram Roop wrote me that he had contracted (only last season) twenty barrels of honey to Mr. Muth for 10c per pound I thought, "Oh! thou lunatic!" But now here is another one; who wants to buy?

Probably a discussion of which kind of surplus to produce, will not benefit us at all. Every bee-keeper can decide that for himself and no one else can.

This is a very busy time of year with us all, and I subscribe, yours in a hurry,

JAMES HEDDON.

Dowagiac, Mich., June 2, 1876.

For the American Bee Journal.

Comb Foundation.

Having had some little experience in the use of comb foundation, I have a word to say, as per request, for the readers of the JOURNAL. For about ten years past, it has been in use by several parties in this State, and in Wisconsin, under my observation, with good success—as a *starting comb*—in small boxes for comb honey. Have bought and sold honey frequently, with this artificial comb foundation used in the boxes, and have never heard a word of complaint from any dealer in, or *consumer* of said honey, as to their being anything offensive to the "*palate*" of an "*epicure*," even.

So far as my notice extends, there is comparatively but a small piece of comb foundation used in each *honey box*, or, rather, for *each card* in a box—about two or three square inches.

If you have natural comb, which is clean and white, I would advise using it so far as it goes for starting comb—but the artificial comb foundation is far preferable to natural comb which has become soiled or dark colored.

It seems rather *dear* to pay $1.50 per lb. for the comb foundation to put in *honey boxes*, but it will be cheaper to pay twice that amount for it than to put the boxes on your hives without any starting comb, from the *fact* that without it bees will not begin work in the boxes near as soon, thus your product is diminished, and put up with *less order*.

P. MILLER.

Chautauqua Co., N. Y., May 29, 1876.

CINCINNATI, O.—June 23, 1876.—"The honey season is good here, and the quality of the honey never was better."

C. F. MUTH.

For the American Bee Journal.

Queen Killed by the Sun.

I aim to have a portion of one wing clipped of all my queens, after they become fertilized. I then can govern swarming; and besides this, they never go to the woods, and it is easier to hive them if we wish volunteer (natural) swarms, by setting the new hive in place of the mother stand, and catch the swarm as it comes back, in place of climbing trees, etc.

After No. 17 swarmed, when the swarm had settled, I gathered the queen from the ground, as usual, and put her under a glass, on a plate. I knew that glass would act as a reflector, and draw heat in the sun, but the weather being rather cool, thought she would be too cold in the shade. I set her in the sun and went into the mother hive to destroy the queen cells while the swarm was sailing in the air. When I was through, and went for my queen, behold, she was dead! I have learned this: the sun may reflect more heat than we might expect.

I swarm artificially. I cannot afford to suffer the loss that is caused by volunteer swarming.

Bees wintered well, but are not making any increase for apiarists in this part of the country, so far this season.

E. Liston.

Cedar Co., Mo., May 29, 1876.

For the American Bee Journal.

Wax Introducing Cages.

Let all who wish to try the wax introducing cages advertised in the May and June numbers of the American Bee Journal. Make them according to the following directions and *not* send any more orders to me for them

For a mold take a smooth, round, tapering stick ¾ of an inch in diameter at small end; wet it and dip it into melted wax and then into cold water; you have then a wax cage very much like a long thimble. Draw it off the mold and make a row of holes with a hot wire around the the small end, to guide the bees in cutting off the lid and to allow them to feed the queen while imprisoned. The cage or cell should be about two inches long. Put the queen into the cell head foremost and confine her by folding over the open end and pressing it; the cell may be put into the queenless hive through a hole in the honey board. The bees will go to work to cut the end out of the cell and release the queen which they will accomplish in four or five hours if the cell is of proper thickness. Meanwhile, the queen sticks her tongue out of the small holes in the cell, and the bees cultivate her acquaintance and supply her wants.

In trying to find some sure and easy way to introduce unfertile queens, I discovered that they could be safely introduced by putting them into an empty queen cell, sealing them up, and telling them, so to speak, to hatch out again. See American Bee Journal, August, 1875, page 189. Empty queen cells failing me at one time, I molded some of the wax as above and found them to answer just as well, and more easily prepared. If the wax is very hot the mold will have to be dipped two or three times to make the cell of proper thickness.

I have often tried, but never succeeded in introducing unfertile queens in wire or wooden cages; but with the wax cells have introduced them safely every time in numerous instances both this season and last. Wm. C. Pelham.

Maysville, Ky., June, 1876.

A Valuable Instrument.—The Microscope among the masses, seems to be looked upon as an instrument for use in scientific investigations rather than as one possessing any practical value. Nothing could be farther from the truth. To the farmer, the Microscope offers the means of studying the habits of destructive insects, with the view of ascertaining some method for their extermination. Teachers and students of botany are afforded an opportunity to examine the construction of delicate flowers and plants, thereby reducing to practice, the knowledge obtained from text-books. Merchants can investigate the quality of all kinds of fabrics. The miner is able to detect traces of the precious metals where the unaided human eye would discover nothing. The physician can determine the nature of many diseases that otherwise might baffle his skill. Indeed, so varied are the uses to which a good microscope can be put, that a volume might be written on the subject.

In the belief that many of our readers would be glad to possess an instrument of genuine value, we have made arrangements to furnish the Abbott Pocket Microscope to all who may desire it. The price is low—only $1.50—and it will perform more real service than many instruments costing a great deal more. We believe every family could make one of these Microscopes practically useful. Certainly every farmer, teacher, or student should have one. They will be sent postpaid to any address, by the publisher of this Journal, on receipt of price.

☞ We have a new lot of fresh mellilot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb extra, if sent by mail.

Biographical.

William J. Andrews

Was born in Columbia, Maury county, Tennessee, May 28th, 1838, of Irish parentage, at which place he has always resided. He is engaged in the Hardware and Agricultural Implement business, at that place, and was brought up to the business. Was for three years a member of the firm of Andrews, Mayes & Co., and at present a member of the firm of Andrews, Barkley & Co., and J. P. Street & Co., hardware dealers, at that place. He is also engaged in the bee business, and is a partner of the firm of Staples,

Andrews & Vaughan, proprietors of Columbia Apiary, whose advertisement appears in the JOURNAL.

Mr. Andrews has occupied many important trusts at the hands of his people. In 1860 he was an elector on the Douglas presidential ticket. He has held the position of Mayor, Magistrate, Notary Public, in his turn. He is a contributor to the several bee publications, and is at present the Secretary of the Maury County Bee Keepers' Society. In the April number of the *B. K. Magazine* he gave some of his experiences as a beginner in bee-keeping. As this may be interesting to other beginners, we extract as follows:

"In 1858 I got of a neighbor two stands of bees in box hives, by *stealing* them from their positions, leaving on the spot where they stood two $2.50 gold pieces, as my neighbor would not sell them, saying it was '*bad luck* to sell bees.' Up to that period, but few would sell bees, and the only chance to purchase was at a public sale. However, before I *stole* my bees I had a conversation with my neighbor, in which I told him I thought of getting a few stands, and would do so provided he would hive all swarms and do the robbing for me. He promised to do so. It was out of the question for me to think of handling them, as I dreaded the stings.

In a few weeks after I got my hives, they threw off a large swarm. I had a hive in readiness and sent for my neighbor who hived them for me. While he was working with them, I mustered up courage to venture near, then nearer, and still a little nearer; he speaking words of encouragement all the while, until I soon found myself at the mouth of the hive, and the little fellows buzzing all around me. I have hived all my swarms since. Soon after swarming, robbing came on. My neighbor was called in again. I assisted, and closely watched his movements; since then I have done my own robbing. Up to this time I had received no stings, but many a one have I had since. I became infatuated with the business, but was ignorant of any bee-books or journals, and had no knowledge of a queen-bee, neither had my neighbor, nor has he yet. He has since moved out of my neighborhood and quit bee-keeping. I occasionally meet him and have a bee chat, but he won't be convinced that there is a queen bee; says the drone is the *male* and the workers the *females*.

But I digress. The next year I bought a fine bee palace. I was then trying, and continued for several years after, to devise means to prevent swarming. Into my

palace I drove a swarm of bees; it was about five feet long, three feet deep and three feet wide. Room enough in it for a dozen or more good swarms. From it I never got a pound of honey, and in the winter lost what bees it contained.

In 1860, a patent vender came along with a 'patent bee-house.' My neighbor bought a right to use it and proposed to me that he would stock it with bees if I would pay for the making of the house, to which I agreed. It cost $50. I forget the name of the patentee, but it was constructed to receive twelve hives, and upon the top and back of these it was arranged for the placing of small glass boxes. It *was a* beauty in its way. We got it stocked with bees, but ere the next season ended, the moths ruled supreme, and we lost all but three hives; these I moved into an outhouse during the war for security, and from these three my neighbor and myself got a start at the close of the war, having lost all those left standing out. The house we decided to be a humbug, and demolished it.

The next year I conceived an idea of a bee house of my own. It consisted of a series of drawers, eight deep, and arranged for four swarms of bees. Each drawer was 12x12 and 4 inches deep, on top of each was a square hole 3x3 for a passage way. In the rear a glass with cover, for observation. For this I paid $30. I placed on the top of it two hives with a view of allowing the bees to make their way down into it, one at each end. They had made their way down to about the third drawer, and I had been promising myself for several days to smoke them down, but ere I did so, some 'Johnny rebs' came at night and saved me that trouble, in part, by carry one of the hives away, which I tracked, the following morning, to the rear of Gen. Forest's headquarters, where I found the hive demolished and robbed of its contents. The bees had been gathered up by a friend, who informed me that the queen was killed. He showed me her carcass, that was the first queen I ever saw. My friend offered me the bees, but I declined taking them. The other hive I immediately put smoke to and forced the bees down into the drawers, but during the season the moths also took them, and as was my custom, when the moth got into my bees, I consigned the whole to the flames.

The war was now raging, and all the mills and work-shops were suspended; I could not get lumber or have hives made, so I had to resort to boxes and empty kegs. I had one swarm to come off which I tried to hive in an empty ten gallon whisky keg, but it was no go; then procured a wine keg of the same size, and the way they took to it was fun, I tell you —never before or since had I bees to enter a hive so readily as they did that wine keg.

When the war closed, I had three hives in hand, two being a part of my 'patent bee-house' and the other the wine keg, which had bursted all its hoops, and was held together alone by the propolis put on it by the bees. One of these I gave to my neighbor. The others I transferred to movable frame hives by driving. One of these hives I had made very fancy, with an 8x10 glass on three sides. Shortly after my transfer I saw in my hive, with the glass in it, the *first living* queen I ever beheld, but it was only a momentary glimpse. I now had movable frame hives, but no more knew how to handle them than a baboon, and as to removing the top and lifting one of these frames out, I would just as soon have thought of putting my head in a seething cauldron. I forgot to add that after driving, I dissected the old hives and found the three classes of cells, viz.: worker, drone, and queen.

After awhile another patent right man came with a movable frame hive; but I cried humbug, saying I knew the bees would pay no attention to those frames, that they would as soon, if not sooner, build their combs crosswise on them as to follow them; for in my glass hive I had seen that they did it.

Shortly after, still another came. This one, now my partner, had the American, but I never had anything to say to him on the subject. In fact, did not make his acquaintance until last year. I fell back on the old box hive, and came to the conclusion that all else were humbugs, until last spring. In the month of April I drove into the country to spend a day with a friend. He had on his place about thirty Langstroth hives, seeing which, led us into a conversation about bees. I briefly recited to him my experience, and told him that I had never seen but one living queen. He soon got a couple of veils, handing me one, and taking one himself, he opened a hive and very soon pointed out an Italian queen. My old enthusiasm became again aroused.

When I got home I had three movable frame hives made after my own idea, which I have since become convinced was very erroneous. Also provided myself with veils. My friend came, in a few days after, and transferred the bees from one of my box hives to my movable frame hive; after which I put them all, eleven in number, into the same kind.

I then obtained the works of Langstroth, Quinby, Hunter, King, and the four bee publications, of which I now have complete files.

I did not stop at transferring, but immediately proceeded to Italianize all my own stocks, as well as some of those of my neighbors."

Voices from Among the Hives.

PAOLI, IND.—June 1, 1876.—"I never knew so good a honey crop in May before, since I have been keeping bees."

B. M. LINGLE.

HOWARD CO., IND.—June 12, 1876.—"Bees have not done better for years, than since fruit bloom. I have taken off some boxes well filled with clover honey."

LEVI BARRETT.

LUCAS CO., O.—"Bee houses are no *new* thing; I made a nice one over 30 years ago, as did several of my neighbors. After repeated trials, we all gave them up. I like the JOURNAL more and more every number. Isn't it queer that a drone has no nearer relative on the male side than his grandfather? If a big dose of royal food will make a female out of a neuter, isn't that queer too? And if a half of a dose will make a drone layer, that is queerer than all! Royal food is royal nonsense! Bees raise workers from female eggs. Quinby 'got the cart before the horse.' Bees digest their food before they feed their young, and all young bees are fed on the same kind of food."

NORTON CASE.

FRANKLIN CO., MO.—"I wintered in the cellar and on summer stands with success. If properly prepared they will winter here in either way. I have both the long and two-story hives—from 3½ to 5 feet long. I have extracted from my 4 ft. hives, containing 32 frames, 56 lbs and had them refilled in from three to four days. I think I lost by not having boxes on, as they might have filled them while I was waiting for the honey in the frames to be capped over. My new idea hives are made to have room above the frames to hold boxes six to seven inches deep, and the end heads are made six inches longer than the hive is wide, on each side, and a rabbet run one inch from each end to slip in a board for an outside wall, which leaves a space of 4 inches, which I pack with hay or straw for winter, putting a quilt over the frames and fill in with rags, paper and straw; then take out three frames from each end, put down a division board and pack the same way, and my bees pass the winter well, if they have plenty of good honey or syrup. I have some hybrid queens that occupy 26 frames 12x12 inches with brood."

S. MILLER.

VINTON CO., O.—May 8, 1876.—"I have 50 colonies; they have gathered heavily from fruit bloom and wild flowers. Everything seems to be loaded with honey. Have extracted from my strongest colonies to give the queen room. White clover is abundant. To warm up the hives I take the covers off, elevate the rear and let the sun shine upon them. I use a mat or a carpet on frames, and in the spring a tight board on it, with a stone to keep it in place. I think that the queen is not satisfied with one drone on her bridal trip—but meets two or more. What do you think about it? Long live the JOURNAL!"

J. B. RAPP.

[As to whether the queen meets more than one drone, the question is not yet positively settled in the minds of all.—ED.]

OCEANA CO., MICH.—June 15, 1876.—"I have 12 colonies, all doing well, and almost ready to divide. I am situated on White River, 22 miles from Newaygo."

B. F. BENTON.

FREDERICK CO., MARYLAND,—June 14, 1876.—"My bees are doing well this season, hives full, and bees gathering honey rapidly from white clover and persimmon; extracted yesterday. I got from Ch. Dadant & Son, a good imported queen, last summer, as did also my brother. Both were splendid, and fully up to their representations." J. M. C. TAYLOR.

MOULTRIE CO., ILL.,—June 14, 1876.—"I have 16 stocks all doing well. Have extracted 300 lbs. of white clover honey. Am an amateur, but devote the spare moments to my pets—from my professional duties—and am amply paid. I take much interest in the JOURNAL."

ALVIN P. GREENE.

MONTGOMERY CO., IND.,—June 15, 1876.—"White clover is abundant, and bees are doing finely. Many here are getting interested in bees." ISAAC SHARP.

CHICKASAW CO., IOWA.—April 6, 1876.—"I have ten swarms now, I got them last fall. They were wintered in a cellar; did not lose any; one of them was quite weak; it was hybrid. I have three of them, all are in good condition and on their summer stands now. It has been rather cold but they seem to be doing well; have plenty of stores as yet. I set them out March 14th, they have had only two days that they could fly, and that was the 31st and 6th. I am quite impatient for it to come good weather, it seems to be quite backward in this section. Bees seem to winter well in this part as far as I have heard. I wintered in a cellar under the kitchen—it was just above freezing. My father has 30 swarms; all wintered well with the exception of 3 or 4 that were weak; they died for want of honey. They take the JOURNAL, I read it the most of the time. I like it much, it seems to tell what any one wants to know. It seems as though I couldn't read it enough. I will give a little sketch

of my experience in bee-culture. I first bought a stand of bees of my sister. I paid 6 dollars for it. It was money got by trapping, when I was a lad. They died the next winter. The next, I worked with my father in his apiary and he gave me two swarms for helping him; these I kept; they increased to five and winter-killed the next winter. I am trying very hard again. I understand but very little as yet about them. I use the Quinby hive and the American too; I like the latter the best." ED. J. HILL.

[Better use only one kind of hive. It is easier to settle upon one kind now than to change when the number is greater.—ED.]

FRANKLIN Co., N. Y.—"I put 15 swarms of black bees in my cellar Nov. 4th, 1875, and took them out April 15th, 1876, all in good condition, and strong in bees. My cellar is dry. I kept it dark, temperature 37° to 40° ; they were in the old fashioned 8 frame Quinby hive. I made 15 new Langstroth hives this spring and transferred my bees and comb into them two weeks ago. If I was capable of writing for the AMERICAN BEE JOURNAL I would state how I did it. It is simple and easy; it took me about fifteen hours. I worked hat off and shirt-sleeves rolled up; did not get stung; used a little smoke, applied with the Quinby smoker. I intend to Italianize all my bees this summer; that prince of good fellows, Mr. J. P. Moore, of Binghamton, N. Y. promises to instruct me."

CLEMENT MCDERMOTT.

[Tell us how you transferred if your plan is new, by all means. Also, *why* do you transfer from Quinby to Langstroth hives?—ED.]

HENRY Co., IOWA.—May 24, 1876.—"Seeing no news in your valuable JOURNAL, from Henry Co., I hasten to tell you of the favorable and most promising season that has just opened within the last few days. Although the wind blows, it does not stop the busy little workers from performing their daily labor, which the God of Nature hath made for their skillful talents to complete. Fruit trees are in full bloom. There is a good prospect of having abundance of fruit. Father says he never saw bees make so much honey from the bloom as they are making this spring. We could begin extracting now, but father thinks he will put boxes on most of the hives. Is everybody so particular as my father, I wonder? Every spring he scrapes, sandpapers and washes the bee-hives (with my help) and puts every swarm into clean hives. Is it any use to be so particular? Will we have any better success? Father has never had as good luck as some. Our bees are all Italians. Some are preparing to swarm. Our bees all lived through last winter. We put some in clean hives yesterday and found one to be queenless. Some are preparing to swarm. Father has twenty-six swarms and I have five. I am as yet a beginner. Wheat and oats are all sown, but not much corn is planted yet." MISS L. J. NOBLE.

JASPER Co. IOWA.—"It seems foolish to hear so much about the different methods of wintering bees. That matter is settled with us, since we have wintered bees, for the last three winters, on the summer stands with perfect satisfaction, in Finn's porous double-walled bee-hive. Our neighbors that are using this hive are equally as well pleased as ourselves. All we have to do is to see that they have stores in the fall, and put on the chaff-box well filled with chaff."

MRS. A. D. KEYES.

HOPKINSVILLE, KY.—May 10, 1876.—"I wintered 18 hives—all came through safe and sound. All wintered on summer stands with no protection at all; one, a nucleus of 3 frames only. Last season was very bad for honey in this part of the state but I had enough and to spare; while most others who keep bees in box hives had none. I had about 400 lbs which sells for 25c and 30c. Have had two swarms this season, all doing well. I want some information about one of my queens. She is fine and healthy looking, and lays an abundance of eggs, but none of them mature. Bees seem to be trying to make drones out of them, and try to rear brood from them, but none mature. Often 3 or 4 eggs in one cell; what is the matter? I have broken the colony up and keep *her* in an observing hive to find out, if I can, something about her. I send *two dollars* to pay for JOURNAL. Can't get along without it." R. M. ANDERSON.

HENDERSON Co., N. C.—April 6th, 1876. —"We had the most wonderful honey dew ever known in Rutherford and Polk counties, N. C. about 20 miles from where I live, in the month of January. Bees got wonderfully rich; the people robbed their bees to the cross sticks in the log gum, and in two weeks they robbed again. I was told by a reliable man that the honey dew was dripping from the pine trees. My bees are doing well, so far; my first drones were flying on the 4th, two days ago. We had a heavy fall of sleet and snow on the 19th of March, to depth of 12 inches, that killed all the peach and maple blooms, which put the bees back considerably."

ROBERT T. JONES.

MARSHALL Co., KANSAS.—"Last spring I started with 6 stands of bees, five black or mostly hybrids. They increased to 13

strong swarms. My Italians brought 7 swarms, the young ones swarming three times. In the fall I got a nice lot of box honey. Willow and gooseberry are our best blooms for honey and pollen, willow commencing to bloom the last of April, and continuing two weeks. For fall, smartweed and buck-bush or beaver brush. I enclose some leaves. What is its name?"

REV. E. LEWIS.

[The leaf enclosed is very like the whortle-berry leaf, but we can not name the plant.—ED.]

LOGAN Co. KY.—June 9, 1876.—"I wintered 8 colonies in frame hives, on their summer stands. All came out alive and in ordinary condition—I fed about 60 lbs coffee A sugar syrup. Have increased to 15 colonies, and have taken 310 lbs of extracted and 50 lbs. of comb honey. Am using Root's extractor. It is just the thing. My frames measure 12x9 inches inside. I use 24 to the double hive. We have an unusual amount of white clover this season. I have received your premium queen. Cannot tell how I like her until I see her brood Will try for another club this season." T. E. SHELTON.

TODD Co., KY.—June 9, 1876.—"We have a tremendous growth of white clover (the only resource for honey in this locality) which makes our bees glad."

J. H. JOHNSON.

CALUMET Co., WIS.—"I will now make my report for the two last seasons. Commenced with eight swarms in the spring of 1874. Two very light, transferred in May, to my double walled hives. Increased by dividing, to sixteen, and one ran away. Took 336 lbs. extracted, and 600 lbs. comb honey, which retailed at 20 and 25 cents. Wintered in cellar, under the house, without loss. Bought fourteen more, making thirty in all. Transferred the fourteen in April and May. Spring late and cold. Divided in June and made twenty more. Hived sixteen in July, that swarmed; and made eight more in August, by dividing; making seventy-four in all. Took 2,750 lbs. extracted, (which sold for 15 to 18 cents, mostly 16 cents,) 1,125 lbs. comb honey, in small frames, (which sold from 22 to 25 cents), making 3,875 lbs., or 130 lbs. to the original thirty swarms. The honey of 1864 paid for the eight swarms, and all bought since, except $75 for hives. Income for care of bees:

3,875 lbs. honey	$ 660.00
74 swarms @ $10 each	740.00
	$1,400.00
	75.00
Total, less $75 for hives	$1,325.00

Profit each year over 300 per cent. Hive is double walled, with paper between; 16 inches long, 13½ wide, by 11¾ inches deep; 9 frames, bottom board double and loose; cap single. Not patented. I was 35 combs short to fill brood chamber. Had over 400 built this summer, also over 700 small frame combs in supers, which I *extracted*, they not being capped over. These will be of great use next season. Cut all drone comb from brood nest, as fast as built, using it to start combs in small frames for comb honey. The bees sometimes build drone combs three or four times in same place, but they will build worker in time by keeping them trying. Bees *will* swarm without drones or drone comb. Mine have repeatedly done so. I leave a little drone comb in a few to breed from. Bees are mostly hybrids, which we think are better than either Italians or blacks, although twice as cross. We tried the comb foundation, and like it. We wish our friends to build up a home trade for pure extracted honey. This we have done with success. We must help the dealers to introduce it. Instead of selling at 9 cents, get 16 cents, or even 12½ cents, the price of No. 1 sugar, at which price any amount can be sold. Our honey plants are, white clover, bass-wood, tamarac, (larix Americana), buckwheat and rape, also wild flowers. Our honey last season was from clover and tamarac, from June 20th to July 15th, then bass-wood to Aug. 3d, after which time we got no surplus, as the fall was wet and cold. Fed a few late swarms."

J. N. BLANCHARD.

HARTWELL, OHIO.—June 4th, 1876.—"My June number is on hand; *contents noted.* I cannot refrain from criticising some of the *sore heads* in the *bee business*, for the constant *growl* they maintain upon the subject of *strained* or extracted honey. Some of them take it for granted that if a man sells extracted honey, that it *must be adulterated.* It is true, a great deal of what is purported to be *pure honey*, is not honey at all, but the consumer can tell it from pure honey if he *tries* it before buying. I sell both extracted and box honey, and my customers like the *extracted* the best. Some few prefer the box, but the most of them ask for extracted. Let each honey producer sell pure honey, *and nothing else*, and he will very soon establish a reputation *for selling* pure honey, and thereby keep up his prices and his name at the same time. Please send my JOURNAL right on, and when my time is up, send me a notice of it, but don't stop the JOURNAL." ISAAC A. SMITH.

ONEIDA, ILLS.—June 12th, 1876.—"When I wish you to stop sending the JOURNAL to me, I will notify you. I like the A. B. J. so well, I don't wish it stopped. I have wintered all the bees I put into winter quarters last fall. I had nine stocks in good condition early in

spring, but for some reason, three of them lost their queens after having a good start in brood, and one made a failure on raising a queen and has not a fertile one yet. My others are in good shape, but have had to help these three. I have three nuclei besides the nine, and all doing well. I keep the Italian, and do not want any other. I use the extractor, and don't see how any one can discard it after once trying it. Many wishes for the success of the A. B. J." I. W. CRAMER.

SHERWOOD, MICH.—"As there have been complaints made, from time to time, through the columns of the JOURNAL in regard to the Chicago Honey House of C. O. Perrine, and his manner of doing business, I will give my brother bee-keepers the history of two transactions I have had with him. In the fall of 1872, I shipped on a contract made by Wm. H. Buell 400 lbs. of honey by express; after writing a number of letters, and waiting eight months, and beginning to think all was not as it ought to be, I concluded to make a trip to Chicago; found Mr. Perrine very busy, but very gentlemanly, who told me the weights of my honey had been lost, and had not remitted, being in hopes of finding them. He, however, paid my demand, and nearly made me think he was 'more sinned against than sinning,' although it had cost me $15 to collect $80. Again, about the 1st of Aug., 1875, I wrote him a postal, inquiring the price of honey. He answered: 'No market.' In October I received a postal, stating that he was paying 18 and 22 cents per lb. I at once shipped him between four and five hundred lbs., about two-thirds of which he paid 18 cents per lb., and the rest he allowed 12 cents per lb. At least three-fourths of the honey shipped him was clover and bass-wood; the rest, golden rod, catnip, and a small quantity of buckwheat, there being four acres within reach of my bees. At the same time one of my neighbors took his whole crop to Chicago and sold it for 20 cents per lb. cash; amounting to between three and four hundred dollars. A large per cent. of mine was whiter than his. Now, if my brother bee-keepers want to send their honey to him, it is their privilege, but I have done sending mine to the so-called "Chicago Honey House." C. E. SWAIN.

HARTWELL, O., May 3d, 1876.

DEAR EDITOR:— I see you notice in your May number a "Manual for Bee-keepers," by A. J. Cook. If it treats of house culture, please send me a copy. I should think some of you bee editors would endeavor to notice house apiaries to some extent, so that beginners in that method would learn something applicable to our system. You all seem to think that every bee-keeper uses the out-door system, and consequently your advice, etc., is based upon that theory. I know people who have been very successful with the house system, and would not use any other, and they certainly deserve some notice in the bee literature of the country.

My bees are doing finely. Last season was a very poor one with us; we had to feed or lose our bees. I have 13 stocks in fine condition, all Italians. My two houses will hold 40 stocks. I want to "fill up" this season and will do so by "artificial swarming." Is that right?

ISAAC A. SMITH.

[We do not remember seeing anything in Prof. Cook's Manual about *house* culture.

Personally we have had no experience with the house apiary, and until we have different information from what we now possess, we think we prefer our hives out doors in the summer, and down cellar in the winter.

We shall very willingly publish the experience of those who have tried the matter thoroughly. Novice went into it very enthusiastically, but with his usual frankness, admits much loss last winter.—ED.]

ALBANY, GA.—May 7, 1876.—"Last year I became interested in bees, sent for your JOURNAL, and in Nov. bought for $30, three hives said to be in perfect order, and having extra honey; on opening, I found one hive empty of bees, but alive with worms; the other two had about a quart of bees and many worms. I destroyed the worms, and fed the bees all winter, and now I have six fine hives, every frame full of brood and comb. Transferred one swarm, the others I took from natural swarms. Last week I went through the hives and cut out all extra queen cells, caring more for honey than increase of stock, and if we have a good season I expect to make a great quantity of honey. China berry, or Pride of India, sorrel, wistaria, and many sweet garden flowers, peach, plum and blackberry blossoms, give good pasturage now; later we have asters, golden-rod, and many I do not know the names of. Another year I shall plant a patch of buckwheat for them."

KATE L. BRIDGE.

SMITH'S GROVE, KY.—May 18, 1876.—"My bees are gathering honey rapidly from white clover; never saw a better prospect for a rich honey harvest. I have just received one of Dadant's Imported Queens. She is just splendid to look at; and if I carry out my present notions, will have as fine an apiary this fall, as there is in Italy. I want to attend the next meeting of the North American Bee Convention at Philadelphia." N. P. ALLEN.

DANVILLE, ALABAMA.—June 1, 1876.—"Bees are making honey very slow here this spring, owing to the blooms being killed by the cold snow in March. Scarcely any swarming yet."
J. J. WOODALL.

ERIE Co., O.—May 15, 1876.—"Bees have wintered splendidly in this section. They are strong in numbers and commencing to swarm. I hear of no bee disease in these parts this spring."
N. E. PRENTICE.

PEORIA, ILL.—April 25, 1876—"My bees are all right. I wintered 22 colonies in the cellar and 62 out doors. Those in the cellar did the best—they did not eat as much, and were stronger than those out of doors." HENRY BICKERTON.

NAPOLEON, O.—April 11, 1876.—"I went into winter quarters with 60 colonies of bees; part of them were made by putting weak nuclei together. I put on blankets and plenty absorbent material; put them up in a dry room, and three times during winter gave them a fly; had them on summer stands during the cold spell in March; lost two by starvation and two lost their queens. No dysentery this winter; which goes to prove that bees take the dysentery only when they are in a very cold place, and confined for a long time. Bees can always be wintered successfully, by keeping them dry and at the right temperature; my bees are in fine condition now. I fully concur in changing the time of the Centennial meeting of the National Society, to Oct. 25."
G. W. ZIMMERMAN.

CUMBERLAND Co., KY.—June 9, 1876.—"The JOURNAL is a great help to me; with its assistance I think I am doing very well. I commenced last spring with seventeen log gums, and have swarmed and transferred them into Langstroth hives, with an increase of 33, and have Italianized about one-half this spring. I killed one queen, and put in an Italian, and in four or five days I noticed they had killed her. I then introduced another and they killed her. The seventh day, I examined the gum, and found that she had a quantity of eggs, and they were still making queen cells. Why did they kill the two queens?" G. N. ALLEN.

[Bees will generally kill a strange queen without special provocation, unless they have been queenless for some time. —ED.]

KNOX Co., ILL.—May 8, 1876.—"Bees are not doing very well yet. Fruit bloom is coming on, but we have a great deal of cold, windy and rainy weather. Will have a splendid fruit crop, if the weather is fair." W. M. KELLOGG.

DUBUQUE, IOWA.—May 6, 1876.—"Wintered 29 stocks in an old ice house. They are in fair condition. Lost 4—one from queenlessness and 3 from starvation. The weather has been the worst for bees that I ever knew. It is all rain, wind, or cold. But a few days in April that bees could fly; and in this month, so far, but a few hours." GEORGE W. HORNER.

GRANT Co., WIS.—April 18, 1876.—"Two years ago I lost all but four stocks. The summer was a poor one and I could only increase to seven, and got no surplus. The next winter and spring I lost three; but last summer brought them up to thirteen strong stocks. They are now in good order, and I feel cofident of success this year." C. MARSH.

VAN WERT Co., O.—May 4, 1876.—"We have 120 stands of Italian bees. They are doing well, so far. Last spring we lost all but 26, and increased to 120; lost 9 in winter, and bought this spring to make up the loss. We have them in five different places. We anticipate a good year, and will give the AMERICAN BEE JOURNAL the result in the fall."
LEHMANN BROS.

BLAIR Co., PA.—June 8, 1876.—"Bees are swarming quite freely. Mine have increased from 15 to 21, and lots more to come. White clover is just coming in bloom. Have some working in honey boxes; intend to use the extractor on some colonies. A good many colonies died the past winter, in the neighborhood. I didn't loose any of mine; two of them became queenless early, but I united them. Those that lost their bees did not take the JOURNAL, or probably they would not." FRANK M. GLASGOW.

BEETON, ONT.—June 19, 1876.—"I have just commenced to remove the brood from my strong stocks, and insert empty comb and foundation, to prevent swarming. They began swarming on the 16th inst."
D. A. JONES.

BUTLER Co., OHIO—June 20, 1876.—"Bees are doing well here; the crop of white clover is abundant. A great many stocks died last winter and early in the spring." L. WILLIAMSON.

DAVIDSON Co., TENN.—June 19, 1876.—"Bees have done remarkably well here, until the past few days, which have been too wet. It is pleasant to-day, with the promise of fair weather. White clover is quite plentiful. We have about 100 colonies, all in Langstroth hives. We are selling extra honey at 12½ cents."
S. S. HALL.

LANCASTER Co., PA.—June 21, 1876.—"Bees are doing pretty well in this section of the State." PETER S. REIST.

HENRY CO., IND.—June 20, 1876.—"Bees are doing well in this section. I have 43 colonies of Italians, in good condition." W. N. NICHOLSON.

CLINTON CO., MICH.—June 21, 1876.—"I wintered 34 stocks of Italians in my cellar They came out in good condition; have 47 now, doing well; prospect is good for a large yield of honey."

IRA J. ANDREWS.

TIOGA CO., PA,—June 14, 1876.—"I was much pleased with R. M. Argo's article in the June number, and shall adopt his rule with my bees, viz.: "Pay as you go," and they shall pay for THE BEE JOURNAL first, for I desire its monthly visits continued. I have been a subscriber ever since Mr. Wagner first became its editor, and without meaning any reflection on past administrations, I must say that I consider it in the *best* hands now. Accept my best wishes for its success."

JOHN ATKINSON.

ALBEMARLE CO., Va.—June 19, 1876.—"I have fifty-five colonies—mostly good ones—and am directing attention mainly to box honey. I use simplicity Langstroth hives." J. W. PORTER.

MALVERN, IOWA.—June 12, 1676.—"In Dec., 1874, I bought five colonies at $20 each; all but one died in wintering. In the spring I got two more. I got four natural and six artificial swarms. Last fall I put 14 swarms into the cellar after having taken 256 lbs of honey from them. Ten came out in good condition this spring. One I think was queenless and three starved. Though March I fed them all, and until about the middle of April. On May 10 I had two natural swarms and the best one left for parts unknown, the next day. I have 14 now, and intend to have 30 this fall. My pets are more peaceable than when I first got them.

W. K. FOLLETT.

[Isn't the difference in your handling them, rather than in the disposition of the bees?—ED.]

ATLANTA, GA., May 31, 1876,

Capt. J. A. Crawford was stung on the finger some two years ago, and came near dying from the effects of it, medical aid being called in to save his life. This time the doctor's skill was baffled. He was stung on the forehead May 24, 1876, and died in two hours. P. WINDSOR SMITH.

[Wm. G. Walton, Hamilton, Ont., also sends us a notice of the above case, and asks if we hear of many such cases. We think this is the first of the kind ever reported to the A. B. J.—ED.]

Notes & Queries.

Sun bleached beeswax comb foundation, is not fit to put into honey boxes, especially not to fill them with it. The sun gives the wax an undesirable flavor, which is readily noticed after the cells are lengthened and filled with honey. I send you some comb that has been built from Long's foundation. S. RUGGLES.

The samples received were handsome and white, except the yellow color gotten from the bees, particularly when the cells were fully built out. The smell was all right, and on testing a piece by chewing, it acted like any other comb, only it had somewhat of an oily taste, but not very strong. On chewing a piece which had been scarcely touched by the bees, a very little chewing sufficed to separate it into fine particles, very white, having none of the adhesiveness of beeswax but looking more like ice cream. The prolongation of the cells was of course the same as the bees always build, but what was the artificial part? Either it was not beeswax at all, (and we are inclined to this opinion) or it was utterly changed in texture. We do not think bleaching wax in the sun would so change it.

We certainly should not want to use such foundation in surplus boxes, even small pieces as starters. If such foundation as this is to be used, we certainly agree with *B. K. M.*, that it should be used only in the brood chamber, and indeed we doubt if we want it there.

How much should be cut off in cutting queens, wings? Have 47 swarms; lost one in wintering by starving, and three since. Some are weak still. Is melilot and sweet clover the same?

Naperville, Ills. C. KENDIG.

A queen has, like other bees, two wings on each side; clipping off one of the four will answer all purposes, but it may happen to be easier to clip off at one stroke a part of the whole four wings, in which case from one-fourth to nearly all may be taken off. Some adopt a system of marking a queen's age by clipping off one wing as soon as she begins to lay, and an additional wing for each year of her age afterward. Melilot is commonly called sweet-clover.

1. Will eggs laid in worker comb produce drones if removed by the bees to drone comb?

2. Is there any difference between an egg that produces a drone, a queen or a worker bee?

In connection with the above I would give you my own observations. This spring, about 9th to 12th of April, on examining one of my "black colonies," I found it very strong and queenless, (*I had examined* this *two* or *three* times previous) so that I know there was no queen nor *fertile worker*. I gave it 1 frame of brood from my Italian colony, all *worker comb*, and as the colony was weak from which I took it, I have every reason for believing every egg would have produced worker bees if left with the parent hive, for at this time there are no drones nor drone brood in it, and on examining the hive this morning, I find a fine young Italian queen, a fine lot of young Italian bees, about as many as would hatch out from a piece of comb six to seven inches square, a good force of black bees, and on the adjoining comb some *drone brood*, some apparently just from the cell, and some drones one to three days old, and some cutting out, and every drone, or nearly so, a well *marked Italian*.

Now the above tends to show that an egg laid by a fertile queen (one that has met the drone and been impregnated) will produce either a *queen*, *drone*, or *worker bee*, and that the bees alone control the fecundation of the eggs, and that the queen has no control over the sex of the egg. W. G. SMITH.

St. Louis, Mo.

A pretty strong case is here made out, but there may be more than one way of explaining the puzzle, without conflicting with the generally accepted theory, that an unimpregnated egg will produce only a drone, and an impregnated egg only a queen or a worker. We should like a little further history of this case. In what stages of progress was the drone brood? Was there any brood not sealed over, either drone or worker? Had any frames of this hive ever before been exchanged with the Italian hive?

It has been suggested to me, to treat foul-broody hives and combs, and also moldy combs and empty combs, hung away over winter (to protect the latter from moth worms), with a solution of potash or concentrated lye. Can you or any of your readers tell me in what proportion the lye or potash should be diluted, whether it will destroy foul brood, mold, moth worms and moth eggs, what effect it has on the comb, if this should be rinsed only with water or (as was also suggested) with a weak solution of sulphuric acid, and how the bees will accept hives and combs thus treated? I shall experiment myself, and report results.

WM. MUTH-RASMUSSEN.

Los Angeles, Cal.

We have no experience in the use of potash as cleaning agent for the combs, or for preventive against foul brood, or moth. Will some of our readers give some light on this subject?

Instead of trying potash, if we had any fears about combs being infested with foul brood, we would use salicytic acid to disinfect them.

Take 1 ounce salicytic acid (crystallized) and dissolve it in 8 ounces of pure alcohol. Preserve the liquid in a bottle well corked. To spread the acid upon the combs dilute it in pure distilled water, one drop of acid for 17 grains (avoirdupois) of water; the water should be warm at least at 60 degrees to prevent the crystallization of salicytic acid. Then with an atomizer, project the watery spray in the cells. Do not prepare the dissolution beforehand, for the salicylic acid would crystallize.

To clean combs of moth worms fumigate them with sulphur. Prepare sulphured wicks, by dipping some strips of coarse cotton cloth in liquid sulphur. Suspend the combs in a box and light a bit of your sulphured wick under them. Renew the operation if some eggs have escaped and hatch. Then preserve the comb in a well closed box.

Please give me the proper management of honey barrels that were used for honey last year. I have some barrels that were made last season, of white oak timber, and filled with honey, and when they were emptied last fall I bored a gimlet-hole in one head, close to the side, and set them up and let them drain until the last drop was out. Are they in order for honey this year? A BEE-KEEPER.

If the barrels have been kept in a dry place since emptied, they are probably all right. If not, a good scalding would be the thing. If they have stood in a damp place with a little honey in them they may have soured, in which case it might be well to fill up with water and soak a few days, then dry out and scald.

To wax the barrel, pour in beeswax *hot*, bung up tight; turn the barrel on

each end and roll over and over, in such a way as to bring the hot wax in contact with every portion of the inner surface of the barrel; then knock out the bung and empty out the wax. Be in the biggest kind of a hurry from the time the wax goes in the barrel till it is all out. A mixture of beeswax and rosin has been recommended for waxing the barrels; also a mixture of equal parts of beeswax, rosin and tallow.

At this season, is the hive ever without brood or eggs? I extracted from a hive last week and found none; I gave them eggs, and examined yesterday, and found they had done nothing towards raising queens, but to my surprise, I found a few eggs. Was the queen in the hive all the time, but not laying? To-day I extracted from another and found it in similar condition—no brood nor eggs, and on examination I found the queen in the hive. Why is this? I have been keeping bees for four years, but never saw the like for honey. B. M. LINGLE.

Orange Co., Ind., June 23, 1876.

If you are not a very careful observer you may have overlooked eggs or brood, which were in very small quantity on account of the great yield of honey; the cells being so filled with honey as to leave little room for the queen to lay.

If there was no brood in any stage, sealed or unsealed, then the probability is that the colony had lost its old queen and the new one had just commenced laying when you found the first eggs.

I have an Italian queen that lays several eggs in each cell, and I have counted as many as eight. She is a queen that I raised last summer, and laid the same then as now. She is very prolific. Can you tell me the cause of depositing so many eggs in each cell? G. THRASHER.

Williamston, Mich.

A lack of room will sometimes make a queen lay more than one egg in a cell. We should try increasing the number of cells in which she can deposit, increasing the strength of the colony so as to have bees enough to care for all the brood that may hatch from her eggs. Possibly there is too much honey in the hive. With bees enough and empty cells enough we think she will hardly waste time putting more than one egg in a cell.

What is the matter with my bees? Young bees, half-grown are dropping down by the handful. I find several magots ½ inch long at the bottom of the hive, and up on the inside. I clean and brush, but it does no good. I use the common box hive. I am a beginner. What is the starting point to be successful in the bee business? Large prairies, lots of flowers, wild roses, sumac, &c.

L. S. W. FOLSOM.

Caddo, Indian Territory, June 17, 1676.

That dreaded enemy, the moth, is probably the cause of the young bees being thrown out. The worm eats its way through the cappings of the brood and the young bees are thus destroyed and then thrown out. If you will transfer your bees to a frame hive, then you will be able to help them by picking out the worms with a sharp pointed knife. A strong colony will take care of itself, especially if Italians.

You have already taken a good step as a "starting-point," and that is, in getting some bees to begin with. Another step is to get a good book on the subject of bee-keeping. Prof. Cook's little work (30c) is the most fully up with the times, and afterward you might add one of the larger works of Langstroth ($2.00), or Quinby ($1.50). If you want to be thoroughly grounded in the Dzierzon theory so as to pursue the business most intelligently, we cannot do you any greater favor than to recommend you to get the first volume of the AMERICAN BEE JOURNAL, ($1.00) which contains the fullest discussion of the Dzierzon theory be to found in the English language.

Our New Club Rates.

We will send one copy of THE AMERICAN BEE JOURNAL and either of the following periodicals for one year, for the prices named below:

THE AMERICAN BEE JOURNAL and Novice's Gleanings for	$2.50
King's Bee-Keeper's Magazine	3.25
Moon's Bee World	3.25
All four American Bee publications	5.00
British Bee Journal	3.50
American Poultry Journal	2.75
The Chicago Weekly Tribune	3.20
The " Weekly Inter-Ocean	3.20
The " Weekly Journal	3.20
The Western Farm Journal	3.70
The Prairie Farmer	3.70
Purdy's Fruit Recorder	2.50
Voice of Masonry	4.25

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, AUGUST, 1876. No. 8.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

GLEANINGS.

COMB FOUNDATIONS.—Novice says: "A small amount of yellow wax—1 part in 4—will temper the paraffine so that it works beautifully; but with the white wax bought for perfectly pure, of the wax bleachers themselves, we are obliged to use *two* parts of wax to one of paraffine. This looks very much indeed as if the white wax, were *not* wax, but it may be well to exercise charity, for the bleaching process certainly raises the melting point, and *may* likewise change its tenacity. Well we were going along beautifully, putting pieces into the hives meanwhile, which worked as nicely as could be desired, until our very hot weather of the 13th and 14th, when we were alarmed to find the cells stretching themselves downward into ovals instead of hexagons, and it was really amusing to see the troubled look on the countenances (?) of the young bees as they surveyed the work, after repeated attempts at patching up and repairing. The sight of their discomfiture created some merriment among our juveniles, but we gave a faithful promise to the bees, which same shall be extended to our patrons, that hereafter they should have material that would stand a degree of heat fully equal to that of yellow wax at least.

"We can get pure white wax for 50 cents, and foundations made of this will doubtless answer every purpose; but unless the paraffine can be worked in we cannot well make the price less than $1.00 per lb., whereas if the paraffine can be made available, we hope to be able to furnish it in quantities, as low as 50c.

"Further experiments show that one part of yellow wax to three of paraffine is so nearly white that it will never be distinguished from that made with white wax; and the melting point is so high, that they will stand safely, exposure in the sun that natural combs would not. If the matter can be arranged so that we can use one article for both brood and guide combs, it will save considerable trouble; and when we get over the present rush, we hope to furnish this article for 50 cents in quantities of 10 lbs. or upwards."

HIVING NATURAL SWARMS.—"Keep a green bush tied to the teeth of a common wooden rake, and a queen cage tied to the bush. When the bees swarm, catch the queen and put her into the cage, then hold her up among the bees, or fasten the rake near where they are clustering, and your swarm is in very convenient shape to handle. Your wife can do it all, after a little practice."

NOVICE'S HONEY BOX.—"The top and bottom are wood, and are about 3-16 in thickness. A small hole is drilled ¼ of an inch from each corner, and a long, slim screw is put through tops, and screwed into bottoms. By turning these screws down it is plain that you can draw the wood so firmly against the glass, as to cause them to sink slightly into the wood. The screw is just inside the glass which rests against it. If you wish it more ornamental, fold square a ½ inch strip of tin, that is 1-16 longer than the glass; this will cut into the wood, under pressure of the screws, and holds the glass in place, even if it be not cut very accurately. To give you an idea of how cheaply this can all be made, we will remark that the holes are drilled in a block of wood, cut to the exact size, before the thin boards are ripped off. The entrance slots (3) are cut in the bottom boards before they are ripped off from a block in the same way."

BEE WORLD.

EXTRACTING HONEY.—Rev. M. Mahin, in an excellent article on extracted honey and the use of the extractor, says:

The best time in the day to perform the operation is the time when the bees are busiest gathering honey; and that depends upon the sources of supply. Some flowers yield honey only in the morning, as buckwheat; others yield most abundantly in the heat of the day, as white clover. When bees are gathering honey plentifully, extracting can be done anywhere, and robbing will not be induced, and no bees will disturb the exposed honey. At other times great care is necessary. The hives must be kept open as short a time as possible, and the extracting must be done in a room that bees can have no access to. At such times all opening of hives should be done very early in the morning before many bees are astir, or late in the afternoon when activity has mostly ceased.

The *World* complains of W. H. Furman and T. H. B. Woody, who owe it for advertising and do neither pay nor answer letters, asking for payment. The latter owes the A. B. J. over $25, but it can get no word from him of any sort.

BEE-KEEPERS' MAGAZINE.

Novice will be after the *B. K. M.* with a sharp stick, as it was the last one of the monthlies to reach us this month; not getting here till the 20th.

THORNS FOR TRANSFERRING.—"While at our office a few days since, Capt. J. E.

Hetherington stated that $1,000 cash would not induce him to abandon the use of thorns in transferring and go back to the ordinary methods now in use. For uniting the small pieces of comb these thorns are used as dowell pins, and being very hard and smooth, the bees never gnaw them out. They are also inserted through the side bars of the frames into the edges of the combs, and transfer frames should have the side bars pierced to admit the thorns before commencing the operation of transferring."

Capt. Hetherington is high authority, but what use can he have for so much transferring? Most men with an established apiary could take the $1,000 cash and buy all the stocks, already transferred, that they would ever want to transfer.

ARTIFICIAL TABLETS.—An article written by J. Mehring for the *Bienen Zeitung*, for March, 1859, is translated for the *B. K. M.*, giving some account of comb foundation, or as Mr. Mehring expresses it, "artificial tablets," invented by him. He does not seem to claim so much for the saving of wax, as for the increased amount of ground upon which the bees can be actually at work, instead of the majority of the bees hanging idly in festoons with only a small number actually at work on the newly begun comb. He says, "One thinks of a field in which potatoes are to be hilled, and at every hill imagine a workman. Thus may it well be expected that the work will be sooner finished than if only a few workmen should commence at one end, while the majority were obliged to stay hanging about the field." As he could use no extractor at that time he did the next best thing, and says, "As the bees began to seal the honey in these beautiful honey combs, and I, so to speak, thought them ripe for the harvest, I took a sharp, crooked knife, shaved off the cells built by the bees, together with the honey, to the middle wall, and then hung the original artificial tablet again in the bee hive, while the building up was carried once more extremly rapidly forward."

APICULTURE AT THE CENTENNIAL.—R. McKean Jones says "The display of apicultural supplies at the Centennial Exhibition is most lamentably deficient; indeed, were it not for the efforts of one or two foreign exhibitors, there would be scarcely any representation at all." At the time of his writing, J. S. Harbison and J. S. Coe were the only American exhibitors, and he remarks "In consequence of this neglect of American bee-keepers, the small number of exhibits which are to be found in the Exhibition are so scattered that it is almost impossible to compare them intelligently. As the matter stands at present every nation that makes any display whatever of apicultural instruments and supplies is in advance of this country." He justly thinks that this will give a false impression in view of the great advances that have been made in this country.

PATENT REVOKED.—The *B. K. M.* says the patent granted C. O. Perrine on the Weiss foundation *machine* has been revoked.

BRITISH BEE JOURNAL.

So far, the season seems to be not a very good one in England, but they are hoping for better things in the latter part of the season.

Bee shows seem to be quite an item in England. The advertisement of the third exhibition of the British Bee-Keepers' Association with the schedule of prizes occupies a page and a half, prizes running as high as five pounds sterling. It looks rather odd to see a prize offered for "the best and cheapest skep for depriving purposes," by which we understand one without movable frames. Speaking of the prizes for hives the *B. B. J.* says:

One notable feature we have had the satisfaction of introducing as regards hives, which is, that all those entered for competition in the various classes (for sale) shall be fitted with guides ready for use. This at first may see a trifling innovation; but as every exhibitor will be required to guarantee that he will supply hives to pattern, etc., it really means that the onus of fixing guides shall in future lie with the vendor, instead of the purchaser. This, we feel, will be a great boon, especially where hives are supplied to cottagers, or where the system is used for the first time; and as skilfull hive-makers will be able to fix the guides at a minimum cost, one of the 'bothers' in the bar-frame system will be got rid of, and the principle will, we trust, prove more generally acceptable since, with very little care, straight combs will be the rule and not the exception.

This is a step in the right direction. Can we not go a step father and have hives furnished with frames filled with comb foundation—always provided that foundations prove a success?

A correspondent of the *British Bee Journal* sends to that paper larvæ of the wax-moth for information, saying, "I showed them to a very intelligent and practised bee-keeper, who could give me no information on the subject." That correspondent could not keep bees very long in this country without making the acquaintance of the aforesaid pest.

WINDER'S QUEEN CAGES are on sale at our office. These cages are made of tin and wire cloth, having at one end provision for holding a piece of honey comb or a sponge filled with syrup or water. Over this is fitted closely a tin cap or cover.

Honey Prospects.

From present reports the honey crop of 1876 will be much beyond the average. Through sections over which we have passed in Illinois and Iowa, the ground was fairly white with clover, exceeding anything we have ever seen. The principal anxiety with many, will be to find a market for their honey. We advise patience. Those who are unwilling to wait, but send at once all their crop to dealers or commission merchants in the large cities will not realize as much as those who take time to work off their crop on the markets nearer home. Dealers in the large cities will only buy now at very low prices, for the supply will for the next month or two be far beyond the demand. Producers can better afford to hold the crop than can the dealers. A large number can more easily hold $100 each than can a few dealers $10,000 each.

The special danger in a season like the present is that in many hives there will not be

ROOM FOR THE QUEEN.

The very prosperity of some colonies will prove their ruin. As fast as the young bees hatch out, the cells will be filled with honey, leaving no room for the queen to lay; so that the stronger the colony may be at such a time, the weaker it is bound to be afterward, without help from the owner. But few young bees will be left in the hive, the owner "hefts" it and is pleased with his heavy stock, but these old bees die off through the winter and spring, combs filled with honey not being the best to winter in, and before the next season commences, the remark is made, "I lost one of my best stocks; I can't account for it, for they left the hive full of honey." See to it then that at all times at least one or two of the outside combs shall be kept emptied by the extractor so long as honey is coming in. Even at this time of the year it will pay you to buy an extractor, if thereby you can save the only two stocks you may have.

☞ Printed pamphets and books (not circulars) can now be sent through the mails at one cent for each two ounces or fraction thereof. The postage on the third-class matter (merchandise, etc.) remains unaltered, one cent for each ounce. The sender of any article of the third-class of mail matter may write his or her name or address therein, or on the outside thereof, with the word "From" above or preceding the same, or may write, briefly, or print on any package, the number and names of the articles enclosed.

CENTENNIAL HONEY SHOW.—We learn that the June display of honey at the Centennial was an utter failure. Probably one reason for this lies in the fact that bee-keepers were very busy at that time, and many of them had as yet taken very little honey.

The special display set for Oct. 23 to Nov. 1 comes at a time when there will be more leisure and the crop will be mainly harvested. If managed rightly there may be a grand display at that time. We hope there may be no half way business about it; that there may be a creditable show, or the thing given up entirely.

Those who contemplate exhibiting, if they have not already obtained all desired information, can do so by addressing Burnet Landreth, Chief of Bureau of Agriculture, Philadelphia.

☞ We have received a few complaints that the JOURNAL for June was not received. The fault must have been with the Post Office Department. If the JOURNAL does not arrive during the month, a postal card should be sent to this office stating its non-arrival, and giving the name and address in full, and *at once* we will send another copy. When it is delayed several months we *cannot* always send the number required. There is no use of delay, for we send out each issue in time to reach every subscriber during the month, even those afar off in Italy, Germany, England, France, Russia, and Australia. They should reach every part of the United States and Canada before the 10th.

☞ As we wish to give all the news concerning the production of comb foundation, we would invite any one who may have bought and used one of King & Slocum's Patent Machines, to send us a statement of results.

☞ Our Canadian subscribers will be pleased to learn that hereafter they can obtain Postal Money Orders on the United States, thus securing absolute safety in sending remittances.

☞ We have received a very interesting account published in the Utica (N. Y.) *Herald*, of the apiary of R. Bacon, for the last season. We should be pleased to have a report of Mr. Bacon's success during the present season.

SEND NAMES.—Our friends will greatly oblige us by sending the names of such of their neighbors as keep bees and do not take THE AMERICAN BEE JOURNAL, and we will send them a sample copy.

Saugatuck, Mich., June 13, 1876.—"Last Friday I transferred and divided a heavy swarm of bees; making two new swarms in new hives. The queenless colony received a little more than half the bees and half the combs. Seven hours after dividing I inserted a queen cell in the queenless colony. The next day the bees in the queenless colony hung out heavily as though crowded for room, though they could not have been. The colony with a queen was quiet and contented. Sunday a heavy swarm issued from the queenless colony before the queen had hatched. Can you explain the cause? Do swarms often come out without a queen? This swarm acted as though it had a queen, but where did she come from?

Would you advise moving bees four miles to a better honey location this month (June)?

Have 35 swarms, all in good condition. Some swarms have capped 40 lbs. of white clover honey in boxes.

Wintered out doors by packing hives in straw, in boxes 4 inches larger all around than the hives. Did not lose a swarm. All, even the very weak ones seemed in better condition in the spring than last fall.

How can second swarms be prevented from issuing?

Are queen cells always started before the first swarm issues? WALTER B. HOUSE.

Without your noticing it there may have been queen cells beside the one you inserted, and a little older. As soon as the first queen hatched she may have left with a swarm. We do not think a swarm would come off without there being any queen in the hive. You do not say whether the swarm which came off was hived and remained. If so they had a queen. Sometimes a swarm will leave and the queen being unable to fly will fall on the ground near the hive, but in such case the swarm will return to the hive.

It may pay to move bees four miles at any time, provided there is gain enough in the pasturage. We should want all the honey extracted before moving at such a season, and would want the bees to have plenty of ventilation on their journey.

Formerly it was supposed that bees would never swarm without having queen cells started, but since the coming of Italians there are many exceptions to the rule.

Second swarms can be prevented by cutting out all but one queen cell. It is not easy to do this in all cases, for sometimes a cell may be built in such a way as to escape ordinary observation. With box hives it is almost impossible. An easy plan with either box or frame hives is to set the new swarm, as soon as it is hived, in place of the old one, removing the old one to a new position. All the bees which go out to gather honey, for a day or two, join the new swarm on their return, thus strengthening the new colony and weakening the old one so much that it will not swarm again, allowing all queens but one to be killed. As immense numbers of young bees are hatching out in the old hive the places of those that have been left will soon be made good. We have never experienced any loss from this course, but the *British Bee Journal* advises care for fear the great depletion may leave the brood in the old hive unprotected, so that it may be chilled. Possibly, the difference in climate may have something to do with it, but we should have little fear in our hot, dry climate, especially as at swarming, the brood is mainly sealed, which requires less protection than that which is unsealed.

Centerville, Iowa, June 19, 1876.—I have 8 Italian queens all reared this spring. The queens were hatched May 31, and no eggs were seen in hives or boxes in which I reared my queens until June 8; I examined them every day. Then I found from 1 to 6 eggs in a cell. This I found in 3 of my small boxes, and the hive that I hatched my queens in. I write to ask whether this is a common occurence with young queens?

When is the best time to ship bees? Will it not do to ship bees in September or October? If so, give directions how to ventilate them in the Langstroth and American hive, so they will go through safely from Centerville, Iowa to Central or Southern Kansas.

A. O.

Young queens do not usually commence laying until several days after hatching out.

Bees are usually moved in spring. More care would be necessary in September or October as the combs would then be heavier. Ventilation should be given by wire cloth tacked on at the portico or entrance, and also space given on top for air, covered with wire cloth.

Baldwin, Kansas, July 12, 1876.—EDITOR BEE JOURNAL: I send you a plant for identification. It grows abundantly on the prairie where the grass has been trodden out. It grows from 2 to 3 feet high and continues in blossom for a number of weeks. The bees are working on it and it seems to afford considerable honey. Bees are now having a "sweet thing of it" on many wild flowers and also on corn. This will be a fine honey harvest. S. S. WEATHERBY.

The plant, upon examination, proves to be one of our wild verbenas, known to the botanist under the name of *Verbena Stricta*. I have frequently heard bee-keepers speak of the verbenas as valuable for honey, and from this I suppose that they must be so, but still they certainly cannot be ranked with the best. C. E. BESSEY.

☞ The Marshalltown *Times* says: "A warrant was lately sent to the sheriff of Polk County for the arrest of Mrs. Tupper, who had been indicted by the Scott County grand jury for forgery. It was sent back with the following return inscribed upon its back: '*Non inventus est lit outus to Dakotabus.*'"

Correspondence.

For the American Bee Journal.

Improvement of the Italian Bees.

My ideas about the improvement of the Italian bees differ so much from those expressed by Mr. Geo. Thompson, in the AMERICAN BEE JOURNAL for July, that I want to make some remarks about it.

He says, at first, that he has yet to learn that the bee-masters of Italy have paid much attention to the improvement of the Italian bee.

Italy is not so far behind our time in bee culture as Mr. Geo. Thompson seems to imagine. They have in Milan a bee journal —*L'Apicoltore*—conducded with great talent and which has for contributors as good bee-keepers as can be found in this country. This journal was founded nine years ago by gentlemen devoted to bee culture, and by the devotion and learning of its contributors it is improving in every sense of the word. Of course with such a guide the improvement of bees could not be left aside; and I know personally many bee-keepers of Italy who choose always their best and most prolific queens to breed from.

Mr. Geo. Thompson adds: "There are dark, even black bees in Italy." Dark bees? Yes! Black bees? No! Last year, in order to help a too well-known lady, who had sent hybrid bees as imported, Rev. H. A. King said, at the Northwestern Bee-Keeper's Meeting, that there were hybrid bees in Italy. I have, in the AMERICAN BEE JOURNAL for March, 1875, dared him to prove his assertion, offering to pay $200 if he would name an Italian bee-keeper having hybrid bees in his apiary. Mr. King did not answer my offer. Now I extend this offer to those who think there are black bees in Italy. I have not, indeed, traveled in the whole Italian continent, but a well known queen breeder, Mr. Mona, who inhabits Italian Switzerland, and would have been benefited by finding black or hybrid bees outside of his region, wrote in the French paper *L'Apiculteur*, that he had spent two months traveling in all parts of Italy, and that from the Alps to Brindisi, he had found everywhere the genuine Italian bees, with such differences only as will be remarked between one family and another or between the bees of the same colony.

If this statement is true, and there can be no doubt about that, the Italian bees are a fixed variety; the proof of it lies in the fact that this variety reproduces itself in all countries where it is introduced, foggy England as well as in this warm and sunny country.

That the Italian bee can be improved in color I do not deny; but that the improvement in color be the first to be aimed at I cannot admit, for the matter of color can be overdone.

The first queen that I introduced, about ten years ago, in my apiary came from a well known bee breeder of this country, who had got his stock from Dzierzon. This queen was very yellow, yellow from the corslet to the tip of the abdomen. She was introduced in one of my colonies about the middle of October and produced very yellow and handsome bees. Yes, more light in color than the average of the workers of imported queens. In the following season I raised some 24 or 30 queens to stock with them my apiary, numbering then about that number. I could not hope to get queens purely fertilized for I was encircled by a great many black stocks. Imagine my astonishment when I saw many of my young queens producing workers with three yellow rings, yet some of these queens had mated when not a drone could be found in any pure colony; and I was sure there was not an Italian drone within fifteen miles from my apiary. It is true these seeming pure bees were not so well marked as those of my pure queen, but nine out of ten bee-keepers would have pronounced them pure.

This fact led me to search outside of the markings for a reliable test of purity, and after a few researches I concluded that the best test was the deportment of bees on the combs when they are out of the hive. The following year I had the pleasure of raising a few pure queens, but among them was one producing unfertile eggs and one drone laying. I thought that these mishaps were the result of in-and-in breeding, and resolved to import bees direct from Italy.

Now how was it that my queens mating with black drones would produce all workers with three yellow rings? I think I am able to explain it. Dzierzon, by a careful selection of queens and drones, had produced a strain of bees very light in color, he even succeeded in producing workers with four wide, yellow rings. His bees were so yellow that the mating of his queens could not have the same effect on the progeny as if the color had not been so much improved; and a queen breeder, relying on the color only, could be led into error, so as to consider as pure or very nearly so a queen having half black blood in her veins. No doubt the daughter of an imported queen, which has not been subjected to such an improving, if mating with a black drone, will show the impurity of the mating and will never deceive her owner. The queens which have mated with pure drones, and these queens only, will seem pure, all the impure blood being visible in the progeny. The number of pure impregnated queens will be smaller, but there could be no mistake about the queens who are fit for reproducing or perfecting the race.

Now as the bees are not only kept for their color, but for their qualities as honey-gatherers, the first improvement to be secured is the activity of the workers and the best laying capacities of the queens.

I do not concur with Mr. Geo. Thompson when he says that a queen is always prolific enough if the conditions of the hives are right. I think that very few amongst the old bee-keepers will sustain this statement. I have often seen queens which could never fill their hives with brood, while some others in the same circumstances lacked room every season. Of course the last gave plenty of honey while the others could some years hardly get enough for winter. I, therefore, conclude that the main quality for a queen is prolificness, the second quality is energy and mildness of her workers; and at last, color. For years I have been working with these aims in view and it would be hard to convince me that I am not on the right track.

CH. DADANT.

P. S.—Mr. Geo. Thompson says also that

some queens were imported from this country to England. It is possible. In the *British Bee Journal* no one advertises home-bred queens, for the imported are the only ones relied on as pure by the English bee-keepers.

Since I speak of the *British Bee Journal* I will ask Mr. Abbott why in England they call the Italian bees Ligurian bees?

For the American Bee Journal.

Two Things Proved by Experience.

I have recently made two observations in my bee yard which are worth while to be reported, proving conclusively two points, viz.: that bees transport larvæ from one comb to another, and that bees swarm without a queen.

On July 1st, at 2 p. m., a fine swarm issued and settled on a young tree, in such a position that I had to bag them and empty out in front of the hive, which contained one frame of brood, three empty combs and four empty frames. The bees went in only reluctantly, which showed that the queen had not entered yet. My son, who assisted me, found her in an outside cluster, and capturing her by the wings we tried to introduce her by a hole in the honey board. The corks fitting too tight, I could in the hurry not move any. By trying to introduce her through an opening made by moving the honey board, she was caught and squeezed between the honey board and top of hive. Although I could not perceive that she was crushed, yet she lay motionless in my hand. I could see only a faint moving of her legs. Thinking she might yet recover, I laid her carefully on top of a frame, closed the hive, drove in the balance of the swarm and moved it to its final place. I spread a bed sheet in front of the hive, knowing that the queen if dead would soon be thrown out. Next morning, July 2, she lay dead on the sheet. On opening the hive I found no queen cell commenced yet, which made me think that perhaps there had been two queens. Next morning, July 3, I found on the brood comb several commenced queen cells. I then saw that by an oversight one of the empty combs was a clear drone comb. It hung next to the brood comb. On lifting it out I saw it was full of commenced queen cells. On the side next to the brood comb I counted 37, on the other side 7 cells. As the brood comb was from a hybrid stock I looked for a pure Italian queen cell, which I soon found, two cells being close together. Inserting these into the brood comb, I destroyed the commenced cells and took the drone comb with the 44 cells into the house. On examination I found 30 queen cells ⅓ filled with the white queen jelly, and imbedded in it a worm in each of them. This I think is a positive proof of the ability of bees to move grubs as can be thought of. The drone comb had been in the house since October, 1875, had been built in the side room, was full of honey and emptied by the machine, put back for a day to be cleaned by the bees and then put away until now. The bees had no queen, as I killed her, they made all the cells, filled them with queen jelly and transported 44 grubs from one comb to another in 24 hours. On July 5, a queen had emerged from one of the introduced cells, and the other was destroyed.

The other observation was this:—June 24, I saw a little swarm on the wing which presently settled on a low branch of a tree. There were only perhaps a quart of bees. I perceived at once that they were none of my bees, as they were entirely black. Their behavior was very remarkable. Scarcely had they settled when they wildly dissolved to alight again on the nearest hive, evidently trying in a wild manner to enter from all sides. They showed that they were hungry, awful hungry, so I dropped a little honey on top of the hive they beleaguered. You ought to have seen the eagerness with which they fell upon the honey. The idea struck me to experiment with this starving swarm. I dropped honey on another spot and watched closely for the queen. There was none. I then placed an empty hive near by, removed the honey board, and dropped a little honey on the bottom of the hive. In two minutes every bee of the swarm was collected on the bottom of that hive. Giving them a small brood comb, with a closed queen cell and an empty comb, I put in a partition board, closed the hive, and lo, the bees have remained. They have now a fertilized, beautiful yellow queen, and I expect to make it before fall a good swarm full of young bees, by feeding and introducing brood combs.

Sigel, Ill., July 6, 1876. CHAS. SONNE.

For the American Bee Journal

Southern Kentucky Bee-Keeper's Association.

The following is a condensed report of the proceedings of the Southern Kentucky Bee-Keepers' Convention, which met at Smith's Grove, Kentucky, June 1:

The convention was called to order and opened with prayer by the President, Dr. N. P. Allen. Calling of roll dispensed with. The minutes of the last meeting read and approved.

The Secretary, H. W. Sanders, announced to the convention the death of one of its members, R. W. Stithe, of Hardin County, Kentucky. Whereupon the President appointed the following committee to draft appropriate resolutions on the death of Brother Stithe: H. W. Sanders, N. H. Holman, W. E. G. Allen.

The following committees were then appointed:

On Apiarian Supplies on Exhibition—L. P. Smith, W. W. Wright, C. N. Allen.

On State of Bee Culture—R. A. Alexander, I. N. Greer, Dr. S. T. Botts.

On motion, Convention adjourned till one o'clock, P. M. Dinner on the ground.

The convention met at 1 o'clock P. M. Calling the roll was dispensed with. The journal of the morning session read and approved.

The following reports were made:

We, your committee, appointed to draft resolutions of respect to the memory of our worthy brother, R. W. Stithe, of Hardin county, would beg leave to submit the following:

WHEREAS, It has been the will of our Heavenly Father to remove from our midst our beloved brother R. W. Stithe, of Grand View, Hardin county, Kentucky;

Resolved, That in the death of Brother Stithe, we have lost a true and worthy

brother, a humble Christian, and a good citizen.

Resolved, That we tender our sympathies to the family of the deceased, and would entreat all to be ready for the messenger, Death; for we know not how soon we may be called to that bourne from whence no traveler has ever yet returned.

Resolved, That these resolutions be spread upon the records of this society, and a copy sent to the family of the deceased.

H. W. SANDERS,
N. H. HOLMAN,
W. E. G. ALLEN, } Com.

A communication from Chas. F. Muth, of Cincinnati, O., was then read by the President. On motion, the thanks of this society were tendered Mr. Muth for his valuable communication.

The Assistant Secretary received a communication from Charles Dadant, of Hamilton, Ills., on Artificial Swarming; the thanks of the society were tendered Mr. Dadant, and the Secretary ordered to have the article published.

The Committee on the State of Bee Culture made the following report:

Bee culture is in a prosperous condition in a number of counties in Southern Kentucky. Since the organization of this society many of our best citizens have turned their attention to bee-keeping, and have transferred their bees from the old log and box hive to the movable frame hive. Many of them are reading the AMERICAN BEE JOURNAL and text books, and standard works on bee-keeping, and are thereby getting knowledge that will enable them to make bee-keeping a success. The Italian bee is being introduced into a number of apiaries, and, with the rich honey harvest now on hand, we see no reason why our land should not actually flow with honey.

R. A. ALEXANDER,
I. N. GREER,
DR. S. T. BOOTS.

The Committee on Apiarian Supplies on Exhibition made the following report:

We would report that there are on exhibition, from Thos. G. Newman, of Chicago, Ill., bee veils, honey knives, glass honey boxes, rubber gloves, artificial comb foundation, and German bee sting cure; from C. F. Muth, Cincinnati, O., bee-hives, honey knives, honey jars, bee veils, queen cages, and straw mats; from R. R. Murphy, Fulton, Ill., honey machine; Mr. Hamilton, of Glasgow, Ky., has on exhibition a patent bee-hive. We take pleasure in recommending to bee-keepers the hives exhibited by Mr. Muth—they are Langstroth hives; we were pleased with his honey knives and queen cages; the glass jars are very nice for marketing extracted honey; the straw mats for winter covering, we are of the opinion, would answer an excellent purpose. The honey machine of R. R. Murphy we can recommend as an excellent machine. We cannot say as to the value of the other articles on exhibition, but would recommend a trial of them by our bee-keeping fraternity. Respectfully submitted,

C. N. ALLEN,
L. P. SMITHE,
W. W. WRIGHT.

Mr. Shelton wished to know under what circumstances bees would build the most drone comb.

Mr. Wright had noticed weak swarms were not inclined to build drone comb.

Mr. Alexander said queenless stocks built the most drone comb.

The President said queenless stocks built drone comb almost exclusively, and that stocks with old queens were inclined to build more drone comb than where they had a young queen.

Mr. Shelton said he had noticed his bees build more drone and crooked combs late in the season.

The President said, late in the season, when the sun was hot, the combs in buildings became warped by the heat, and recommended shade for hives.

Mr. Shelton asked how empty comb could be kept from the moth-worm.

Mr. Wright would put in a tight box and put in an upper room.

Mr. Alexander said he had but little experience in keeping empty combs.

The President said the best place to keep empty comb from the moth was in a box or room so tight as to exclude the moth-fly; that he never removed the surplus comb until winter, and returned them as soon as his bees were strong enough to protect them in spring.

Artificial swarming *vs.* natural swarming was then taken up, and, after some discussion, it was agreed that artificial swarming was the surest and safest way of increasing bees.

Mr. Hamilton gave a little of his experience in trying to capture absconding swarms, and said he was in favor of artificial swarming.

Mr. Shelton—I would like to hear from some one on buckwheat for bees.

Mr. Alexander said he had but little experience with buckwheat as a honey plant, but he was traveling once, and he got buckwheat cakes and honey, and he knew they were very fine.

President—on buckwheat—said if sown on rich ground, and the weather was favorable, would produce honey, but on poor ground it was of no account.

Mr. Wright said, when he was a boy, they raised buckwheat for bees, and they worked on it. Did not know what they gathered from it.

Mr. Shelton said he will differ with the President on buckwheat on poor land. He said he bought a poor piece of land and put it in buckwheat, and thought it paid well to raise buckwheat for family use.

The President said he hardly ever made as much as he sowed. He thought, perhaps, he sowed too early. He thought to make two or three sowings one might have better luck.

On motion the President appointed I. N. Greer, of Barren county, on committee appointed at the last meeting of this society, to collect honey-producing plants of doubtful name, and forward to a botanist for true name.

A long discussion on the best honey plants was engaged in by various members, and it was agreed that all bee raisers should furnish pasture for their bees, as well as other stock; that they ought to sow buckwheat, catnip, white clover, and plant around their farms the various honey-producing trees, such as sugar maple, poplar, and sumach.

On motion the Convention adjourned to meet at this place on the 3d Wednesday in October next, at 10 o'clock, A. M.

H. W. SANDERS, Sec.

For the American Bee Journal.

To Remove Glue from the Hands.

In answer to Mr. Mason's inquiry for something "That will remove glue from the hands," I will suggest that Rock Soap will fill the bill exactly. As he and the rest of your readers are very likely unacquainted with the article and may suppose it to be some artificial compound, it may be well for me to suggest that the article was discovered in the side of a mountain by Mr. A. F. Hubbard, about 7 miles west of Ventura, California. The strata is about 20 feet thick and inexhaustible. They have commenced quarrying it and packing out of the mountains on the backs of little donkeys. The crude material is then hauled to Ventura, crushed in a quartz mill, dried, ground fine like flour between French burs. bolted, dampened, and pressed into cakes of convenient size for toilet use.

This soap possesses some remarkable properties. So far as I can see, it washes just as well in hard water as in soft. I no longer take the trouble to replenish my pitcher from my cistern, the well being a little more convenient. Those who have tried it say that it does equally well in sea water or fresh. The discoverers send samples to all those who send 15 cents to pay return postage on the cakes. Common soap cleanses by means of its caustic properties and is injurious to the fiber, while, so far as we know or can judge, this rock soap cleanses by means of its powerful absorbing properties and is not injurious to the surface.

O. L. ABBOTT.

Santa Barbara, Cal., June 9, 2876.

For the American Bee Journal.

Ripe Honey.

Not being scientific and having only four years' experience, I do not desire to get into a controversy but only desire to throw some yeast into the subject, hoping thereby to induce some abler apiarists to ventilate it more thoroughly. It is certainly of the greatest importance to all of us to bring into market only the most natural and "Simon pure" article, which not only is honey but also tastes like honey.

Some hold that it is enough done, if uncapped honey, after being thrown out, is put into open barrels and allowed to evaporate until all free water has left. Others believe in slinging out the honey only after all honey cells have been capped over by the bees. Who are right?

It is by many concluded, I think, that the older bees gather the nectar from the flowers or the so-called honey dew from the leaves, and coming home empty the same hurriedly into some cell, while it is one of the offices of the younger bees to suck it up from these cells, partly digest it, and after the nectar by the process has lost much water and is also changed into real honey to deposit it in the comb where it is to be capped over after all free water has evaporated. The cells are generally not over ¼ inch deep, and while the bees always keep up a lively circulation of the warm air in the hive it cannot be doubted that the honey in cells will soon be rid of all free water, when it is fit to be capped over. The bees knowing exactly what they do, begin to cap as soon as the honey does not evaporate any more.* I always find the honey in combs which have partly been capped, of general thickness.

I cannot see how thin honey put into open barrels can ever well evaporate. If 2 feet deep, it is 48 times deeper than a cell. If it takes 3 days in a cell to evaporate, it must take 144 days in a barrel of two feet deep. It is only the surface which evaporates. Of course the evaporated honey surface becoming heavier will sink, giving room for a new layer of thin honey to evaporate. There will certainly be an end to the process, but I would not dare to wait for it. Expose a barrel of clean water to evaporation and see how long it will take to be empty. How much longer may it take to evaporate the free water from a barrel of thin honey?

I have another objection to slinging combs which have no capping on them. Such combs may as well as not be the first receptacle of the honey as brought in by the older bees, which, as far as my experiments go, is very often quite distasteful, not being like honey at all. To wait before slinging the comb until all cells are capped over is, I think, unnecessary, increased labor and unavoidable injury to the cells by the knife being the only gain. I sling my combs if only 3 or 4 rows of cells are capped over.

Sigel, Ill. CHAS. SONNE.

*[Is it certain that honey sealed over cannot be further evaporated?—ED.]

For the American Bee Journal.

Pro and Con.

DEAR EDITOR: — Having never wearied your patience, pro. or con., with this or that theory, or whether bees can or can't hear, or "dysentery *versus* foul-brood," or the many topics so fluently discussed by able and worthy writers, whose communications grace the pages of the faithful friend of apiculture, THE AMERICAN BEE JOURNAL, my subject shall be principally—for or against.

On page 176, July issue, is a notice of Alfred Chapman's ideas of queen rearing in larvæ as food. He is correct, without the shadow of a doubt.

Can bees hear? Now, that is too transparent to take any one's time to write upon, especially Mr. Argus, who is talented and can word his communication so correctly.

I am an old man and on account of being crippled in my left hand by a burn in infancy, was and am unqualified for any labor that requires two hands, and in order to do duty or labor of some kind I was required to watch bees from a period of my earliest recollections, and I have discovered and satisfied myself at least, of very many important points and features necessary to the correct and profitable management and treatment of bees. Yet, I have failed in being able to find a deaf bee, and would just as soon say that all bees were deaf, dumb, blind, had no sense of taste or feeling and couldn't sting, as to assert that they could not hear.

"When Sorghum came my bees went," is a cry from across in Kentucky. Perhaps it's so, I will not dispute, but it is not my experience. I would suggest that bee-men

examine their hives immediately, and cut out all the cherry and peach-blossom honey that remain in the hives, and tell me in the spring how many colonies you have lost on account of dysentery. You will readily recognize said cherry honey by its cherry color and taste, the appearance of fine bubbles in the honey cells, its resistance to or bursting the sealing; and instead of your bees dying of dysentery they are hermetically sealed up in constipation (everyone is aware that cherry and peach pit meat is poisonous and of a costive nature). The nectar of flowers remaining in the fruit is the germ of the coming fruit seed and if the seed is poisonous the honey is of a similar nature. The above is the best preventive of the early spring bee disease that I know of. The next best (for those that have not already gorged themselves with the said honey) is to give them for food some warm water sweetened with N. O. molasses or something of a gentle purgative nature. When you see your bees take a flight and void freely and return to the hive, have some sweetened water, sweetened with any of the refined grades of sugar, ready for them in the hive, warmed to blood heat before placing in the hive that they may partake heartily of it, as honey in the hive becomes too rich for them, and the weather is usually too chilly for the bees to seek water in the winter or spring flights. Where bees void freely and return to the hive, in this way of treatment they are safe. But after voiding on a chilly day the warmth leaves the body almost the instant that they empty themselves, and often chill and are not able to return. BEE SMITH.

Tecumseh, Mich.

[Does not the same fatality attend bees where they have not access to peach and cherry blossom?—ED.]

For the American Bee Journal.

Introducing Queens.

There are various methods of introducing queens, all of which can be practised, no doubt, with a considerable degree of success. One way is this: after taking the queen from the colony to which you intend to introduce the Italian queen, drop her into honey and daub her all over with it, then put her into the hive among the bees and by the time they clean the honey off her they will accept her; but I never dared to risk introducing a valuable queen in that way, and cannot recommend it. Another method is to put the queen and two or three workers in a wire cage about one inch square and four inches long; cut a piece of honey as large as the inside of the cage, then cut the cells off from one side and put it in the cage next to the bees, with the cells up, then put in the wooden stopper and draw a piece of wire through the top end of the cage and separate the combs near the centre of the hive far enough to let the cage down between them, and when you get the cage where you want it, bend the wire over the top of one of the frames and let it remain there 48 hours, then daub some honey on her and release her to the colony. I used to practice this method with universal success, but last year it was entirely unreliable. I then caged them the same way and left them the same length of time and instead of releasing her I would unstop the cage and take out the piece of honey and having ready a piece of soft comb honey from their own hive, stop the cage with that, putting it in with the cells crosswise; then take a knife and scar the combs enough to set the honey to dripping in several places and close the hive. The workers will immediately turn their attention to taking care of the dripping honey and repairing the combs, and will gnaw the stopper out of the cage and the queen will pass out unnoticed and will soon be depositing eggs unmolested. When released in this way I do not look for her for a number of days, and have not lost a queen in this way.

It must be remembered that old black comb will not do to stop the cage with as the bees are liable to not gnaw it out. There is of course some risk in introducing in this way, but to introduce a valuable queen with perfect safety and without running any risk, I go to two or more hives and take a comb from each of ripe and hatching brood and shake it to get off all or nearly all the old workers, and place them together in an empty hive, and all being in a strange place and strange to each other and all or nearly all young workers they will not quarrel. Then place the queen on the combs, not caged, and she will go to laying unmolested, and the workers will pay the same respect to her as they would to their own queen. In introducing in this way the queen can be seen very often for the first hour or two, and if anything should go wrong it can be arrested before she is likely to be stung and all the old workers picked from the combs and allowed to return to their own home. A very few workers are sufficient to introduce a queen to, if they are hatching pretty fast from one or more combs. If the nights are cool it will be necessary to take them in the house at night, until they get strong enough to protect themselves against the cold. If there is danger of being robbed it will be necessary to put them in the house or cellar until some of them are old enough to guard the hive, then set them out and contract the entrance. Add combs of hatching brood from other hives and they will soon be a strong colony. With this mode of introducing we not only introduce with perfect safety, but we add one colony to our number instead of simply superseding another queen; thus we have all our queens laying which is of vast importance since bees and combs are capital with a bee-keeper.

Virgin queens can usually be introduced if taken as soon as hatched and put where you want them, uncaged. S. K. MARSH.

[The only way we know of to introduce a queen with *perfect* safety under all circumstances, is to have no bees whatever in the hive when she is introduced. Have frames of comb containing all sealed brood with bees just hatching out, and put inio a hive with not a single worker; put the queen in, shut up the hive bee-tight in every spot and place over a strong colony with wire cloth between so that no bees may pass from below, but the heat may. Then, in 4 or 5 days set the hive where you want it and open the entrance.—ED.]

For the American Bee Journal.

Distance of Combs from Centre to Centre.

In the June JOURNAL, S. K. Marsh "wonders how a bee-keeper could be so exact as to adjust the combs to the exact 1-16th of an inch every time they were taken out and replaced, or put into another hive without using a rule to measure every time." It seems there are still a great many "bee-men" who fail to get the full advantage of the movable comb system, and Bro. Marsh may be one of them. If he leaves the adjustment of his frames to guess work he certainly is. Not one "movable comb hive" in ten that I have ever seen is really movable in a practical sense. Most of them are movable enough when new; but after they are full of bees and the bees have been in them a year or two they are more properly pullable and prizable hives. To be a movable comb hive worthy of the name, the frames must be held both at top and bottom, the proper distance apart—for there *is* a proper distance notwithstanding that bees will "adjust themselves to the circumstances" of an illy arranged household. The frames must be so that they can be lifted out at the top of the hives without pressing or jarring or disturbing the bees in the least—so arranged that they cannot be glued fast. The combs must be so straight that one will fit anywhere in any hive in the apiary without crowding or leaving too much space between them. If bee-keepers would have their hives thus perfect they would save themselves and their bees much work and annoyance and find the care of an apiary much more pleasant than it generally is. It may be nothing new, but let me tell Bro. Marsh how to make such a hive. He may make the body of his hive any size or shape he chooses—can reconstruct the ones he has if he wishes. The top bar of his frames must be bevel edged on the under side the entire length including projections. A piece of board ⅞ inch square cut through from corner to corner makes two bars. The top end of the perpendicular stiles must be cut V shaped to receive the beveled bar, and said bar is nailed to the stiles with two long, slender finishing nails without much taper to them. The nails should be driven in at different angles to hold the better. The bottom bar is ⅜x⅞ in. and is nailed on to the lower end of the stiles with the same kind of nails, one at either end. The lower end of the stiles must be chamfered off taperingly to the bottom bar so the frame may slip gently down between wire staples that are to hold the frames the right distances apart near the bottom. If they are thus tapered off at the lower end and the staples give just the proper amount of play, ⅛ inch, there never will be any trouble in "jogging" in letting the frames down. The top bar, beveled edged on the under side, must rest on hoop iron in saw-tooth notches cut exactly 1⅜ inches apart. The frames will then hang, as it were, stationary, made so mostly by their own weight, just 1⅜ inches from centre to centre, and when that distance apart the bees will always begin their combs on that beveled edge. If the frames are further apart than that or nearer together they will not begin the combs there every time. Now bear in mind there are no clap traps nor inconvenient and cumbersome triggery about all this, simply an inch hoop iron with saw-tooth notches cut 1⅜ inches apart and a frame made bevel edged all the entire length on the under side; these staples say ⅝ of the way from the top down giving ⅛ inch play, with lower end of the frames' stiles trimmed off, so as to enter without difficulty. Every bee-man knows the necessity of having every frame and comb so that it will fit every way and everywhere in every hive, and in this way this great convenience can be obtained.

J. W. GREENE.

Chillicothe, Mo.

[We insist always that every frame shall be movable and go in any place in any hive, but we confess that we have not yet been able to have all combs built exactly alike. As they now are, we are obliged to vary somewhat the distance of top bars.—ED.]

For the American Bee Journal.

Some of My Experience.

Bees are doing splendidly here this spring, have several stocks that I estimate have put up 80 lbs. of white, box honey to date; have taken off some finished. My bees were wintered and springed in packing boxes on summer stand, and were strong early; many of them commencing in boxes on apple-tree bloom. Have had but 8 to attempt swarming out of 35, thus far. Have tried some of John Long's white foundation, in the brood chamber. I judged it was mostly paraffine, and so was unfit for box honey, and I find it was also useless for the brood; as queens refuse to brood in it, the bees draw out the cells quickly and put honey into it after a while; but I have tried 10 or 15 queens and found only one that would lay in it at all, and I could not get her to brood it more than half of what she would the natural comb. I estimate that the pound of foundation that I used has done at least $10 damage to me.

Have also tried the plaster cast foundation, by filling small frames about 5x6 in. full of the foundation. I put in three stocks a box of ten small frames each, filled with plaster cast foundation (Mr. Cheshire's plan) ten days ago, and there isn't a particle of honey in it yet; the bees have built and filled combs on each side of these boxes, since they were put on, starting on a piece of drone comb 2½ in. long and as wide as your finger, although these boxes of foundation occupied the position on the hive that the bees generally work in most freely. And now, as far as I have tried it, I consider this whole artificial foundation comb business an unmitigated humbug, and I have tried it all that I care to. I would like to have you put this conclusion in the JOURNAL, over my signature.

J. P. MOORE.

Binghampton, N. Y., June 28, 1876.

[If we could have 80 pounds of honey stored by June 28, on each of several colonies, we don't believe we should care much to fuss with foundation. Will Mr. Moore kindly tell us what means, if any, he uses to have so little swarming in such strong stocks?—ED.]

For the American Bee Journal.

Comb Foundation.

Last winter I received samples of white and yellow comb foundations from John Long, said to be pure wax. Upon testing them by various ways I found but a small part to be wax, and in consequence did not order any more to experiment with. Last spring I received a sample pound of yellow comb foundation of C. O. Perrine, which appears to be pure beeswax. Have used it all in the hives this season, and the bees accept it all right, both in brood chamber and in surplus boxes. In the latter, the comb when finished with new wax and capped, looked as nice as any other, but when cut into disclosed a yellow streak in the middle and a very tough septum. It was not trimmed down as thin as the natural comb. This may partly be owing to the thickness of the yellow foundation. A sample of Perrine's foundation was put into a surplus frame along side of a sample of Long's. The bees worked on Perrine's and built new comb until they were scant of room, and then took hold of Long's sample and finished the cells on it. So it seems that they will work on paraffine though they do not prefer it. When large pieces of the foundation are put into frames they are warped by the heat of the hive, and the comb thereby made more or less crooked or waving. There seems to be no remedy for this, and I found my fancy to have a complete comb built on foundation "as straight as a board," would have to remain ungratified.

[Try filling a frame within a quarter of an inch of the two sides and bottom.—Ed.]

I made a pair of plaster dies, 5x6 inches, in order to experiment with pure wax foundation; succeeded in pressing about twenty sheets before the dies broke. They were all used in surplus receptacles with the following results. Very thin sheets of light yellow wax, melted up from caps and white scraps from honey boards etc., when built upon and sealed over looked as white and nice as the natural comb; when cut into disclosed a shade of yellow in centre of comb, and a thickness of the septum, so little different from the natural comb that no one but an expert would notice the difference. The thicker the sheet of wax pressed into foundation, the thicker the septum remained after the comb was finished. If the wax is ordinarily dark, the appearance of the comb when cut is much like that of comb, that one brood of bees had been hatched in, and would no doubt prove unattractive to consumers. Small sheets can be rapidly pressed with a simple lever, and dies, say 8 or 10 inches square, can be cheaply furnished no doubt by the electrotypers.

Now, if the patentees would sell individual rights to make and use comb foundation, at a reasonable price, it would probably come into very general use; but I confess the present price of the article deters me from making any large investment in it.

The simplest test for adulteration of beeswax is to put a small piece on a hot stove. Pure wax foams over nearly the whole surface of the melted wax. If mixed with paraffine or other substance only a part of the spot will be covered with foam. By a little practice any one can thus readily determine very nearly the amount of adulteration.

Maysville, Ky. Wm. C. Pelham.

For the American Bee Journal.

Ripen your Honey.

While this question is being discussed in the Bee Journal I wish to say a word, and to commence I will refer the readers to friend Muth's article on page 187, June number, present Volume. His experience and mine is the same in extracting and ripening. Let us put good pure honey on the market. Let it stand in barrels and tubs with open ends for some days after extracting, and the thin watery stuff and all impurities will rise to the top. Persons that have not had experience of the kind will be surprised at the amount of impurities they can skim off. We stand ours in the cellar and skim it three or four times at intermission, and then barrel up tight. This thing of running into the barrel direct from the extractor we never did, and after straining it into open ended barrels, etc., and then letting it stand and skimming it, we were convinced it was not the plan to barrel it without going through some days of a process of ripening, etc.

I have managed to make a home market for all the surplus honey I have to spare, so far, by going off into our neighboring towns and villages, a short distance away from home, and have sold at satisfying rates, rather than to ship east to the large honey houses. If our bee-keepers would be crafty trading fellows, they could generally sell much honey near home. E. Liston.

For the American Bee Journal.

"In Medio Tutissimus Ibis."

I have selected the above motto as applicable, in my view, to most of the more important discussions of the day.

The honey extractor is lauded to the skies by some and by others condemned as a nuisance. Now the honey extractor, as I consider it, is one of the greatest inventions, probably next to the movable frame—the greatest of the age. And yet it is liable to abuse and should be used with discretion, always keeping in view the object at which you are aiming and never sacrificing the strength of a colony for present gain.

Spreading the frames of brood and introducing empty comb is another item upon which people widely differ. Some condemn it in toto, others carry it too far. While one or two empty worker combs, never extending the brood beyond the ability of the workers to cover and take care of, is a stimulus to the queen and a valuable aid to timely increase, going beyond that is attended with mischief, enfeebling the colony and discouraging the queen; and this with too free use of the extractor is doubtless the great cause of the frequent desertions of queens so often complained of. The Italian queen, especially the half breed, is a spirited thing and you take away her resources, or cripple her energies by overtaxing her efforts and she rebels, often leaving honey, brood and even workers, though sometimes she takes the latter with her and seeks new quarters. Under such circumstances a little timely aid by giving a frame of brood in all stages is a good remedy, and a valuable precaution to take with all swarms both natural and artificial, especially when the queen is probably unfertilized.

A. W.

For the American Bee Journal.

Winter Shelter for Bees.

ED. JOURNAL:—Although I have bought six different works of you on "the management of bees," and have read them all, thoroughly, and have been taking and reading the JOURNAL, yet I have never kept any bees. The bee business seems to be quite an uncertain business, judging from the reports made through your JOURNAL, but I think it is mostly made so from mismanagement of those engaged in it, especially in the wintering of the little "bugs."

Now, I have an inquiry to make of you and the readers of the JOURNAL, which if you think worth it, you will please insert. Will it not pay to make about as much of an outlay for sheltering and housing a swarm or colony of bees, as it would for sheltering and housing a cow? Is not the net profit on a colony of bees about as much as it is on a cow? If so, why not make as much of an outlay and thereby save the bees?

What consistency would there be in raising a calf to a cow and then keeping it in the winter in a condition that would cause it to die from the effects of cold?

Why would not a box quilt, 4 or 5 inches thick, placed over the hive, with proper arrangements for ventilation, and over the whole place a sheet-iron hive or case, well painted, and let the colony stand on the summer stand, be as good an outlay for wintering as could be desired? The sheet-iron case would keep all dry within, and could conveniently be taken off any time when it becomes necessary to examine the bees. O. J. VINCENT, M. D.

Noble Co., Ind., June 29, 1876.

[We have read over again for the third time the statement that so many works on bees have been read by a man who has never kept any bees. We are sure the Doctor's interest would be highly increased if he should have one or more colonies to manipulate, and he could then test for himself the plan he proposes. We are not sure about his plan, but are open to suggestions on the whole subject of wintering. We think the question is yet an open one with the majority of bee-keepers.—ED.]

For the American Bee Journal.

Extracted vs. Comb Honey.

Yes, friend Heddon, I hear the noise; but you forget that you acknowledged to me only last season that you would contract your extracted for 10 cents, to be taken at your door, pay for packages, etc. Be careful and remember you live near Kalamazoo, and there is an asylum there. The farmer pays $2.50 per day for harvest help and sells his wheat for one dollar per bushel. There is a false price put on everything in the mercantile line in these days; and it costs us almost one cent per pound to produce extracted honey, and I can produce ten pounds of extracted to your one of comb honey. Dare you try me? If so, make your offer and I am your man. Yours in swarming time, HIRAM ROOP.

Carson City, Mich., July 5, 1876.

For the American Bee Journal.

Comb-Building.

EDITOR BEE JOURNAL:—I cannot forbear giving you for print what it pleased me so much to see. I have long felt much curiosity to see just how the bees build comb, and for the purpose of watching them, have a small glass hive. Last Sabbath, taking a newspaper and my footstool, (not wicked, was it?) I went to sit with the bees awhile. I had left the comb rather near one of the glass sides and they had commenced building comb on the glass, thus working with the underside of the body toward me. One bee first attracted my attention by some queer contortions of the body, and a tumble backward among a cluster of some half dozen just below where the new comb was being started; when he again found his feet he had a wax scale between his mandibles. Now, I thought, perhaps here is an opportunity of seeing what I have thought so much about. The scale was held upright between the mandibles and lapped against the inside of the cell on which the bee was working. The scale was not left whole, but after being fastened at the lower side, a part was broken from the top and carried to the other side of the cell. When this had been disposed of, he commenced rubbing the side of his body with the hind leg, at the same time curving the body toward the side rubbed as if to loosen the scale. One could not help laughing to see the quick, funny way in which this little fellow carried the scale from body to mouth. I suppose the hairs or bristles near the pollen basket, or perhaps the little claw-like appendages are stiff enough to catch into the scale thus holding it until placed in the mandibles. I have often questioned how the scale was taken from the body, supposing it was done by other bees, and to see this gave me much pleasure.

All bee-keepers must have noticed the way in which bees hang clustered, almost motionless, when building comb. Now, are the scales passed upward from one to the other to those building at the top, or do the bees change place, each taking care of the scales produced on his own body? M.

Medina, Ohio.

[Here is a very interesting question and we hope "M." will continue her investigations in the same direction. We had always supposed (though this was from reading and not from observation) that bees were neighborly in this wax business, the bee secreting the wax allowing others to help themselves, but "M's" observations point to a different conclusion. Another question in this connection: Why is it that so many scales are wasted and found lying on the bottom board, or thrown out of the entrance when bees are busy building comb? If the bees took these scales from one another why should they not pick them up from the bottom board? But if each one uses the scales directly from its own body then we should not so much expect them to pick up those that are dropped. We shall be glad to hear further from "M."—ED.]

For the American Bee Journal.

Thoughts on Reading the July No.

FRIEND NEWMAN:—The July number is received and contents devoured. A few questions are asked and other matters require an answer.

On page 179, "Can bees hear?" two questions will answer it satisfactorily I believe. When bees issue forth as a swarm, they are induced to do so by the piping (so called) of the queen which the bees hear (not feel) and go forth; and after they are out do not they follow the queen by a peculiar noise produced by her flight? How soon they return if she can't be found; they cannot follow by scent, feeling or sight and must of course by sound.

[We think bees hear, but we don't here see the proof. Do queens always pipe before the issue of first swarms? Is it proven that bees cannot *feel* the piping? It is a common thing for our bees if they swarm out without the queen to settle and remain clustered for some time as quietly as if the queen was with them, but in a couple of hours or sooner they learn the absence of the queen and return to the hive.—ED.]

On page 181, "Bee-Keeping No. 2" goes for the N. E. Bee-Keepers' Society with what he deems a cut, but he has hashed his own judgment for the worst. The report of their meeting shows that it was a good one, and I would be glad to read a few more such reports. But I must notice No. 2. "Now, this talk about controlling swarms is all a humbug." Their answer was plain and too pointed, but they all knew that the question had so often been answered that it was foolishness to a great majority of that Society to again discuss it, and then gave that reply to pass the question; had it been interesting, more would have been said.

No. 2 seems to think that the way to control swarming is to increase. Now, the swarming fever is three times as strong here as in the North, and if left alone they will swarm to death. We have not allowed a swarm since May 1st, and have had over 50 to try their best at it, but we have controlled and with entire success.

On the second question he wants more light than just "Yes." Well, early in the spring, often times there is so much honey gathered that the queen is cramped for room, cannot use the extractor on account of the atmosphere and brood, and in consequence a lack of brood. No. 2 condemns the answer to question 13, for he failed once, but who could call it wisdom to undertake to introduce a young queen when the bees had *a queen cell concealed.* They answered it very well, yet I prefer to open the hive as soon as the first swarm issues, and cut out all the queen cells except one, the finest looking one, then the bees cannot possibly have a chance to swarm for twenty days after she hatches; as they will have nothing to raise it from; if they should have eggs they will not build another while they have one good cell.

On page 185, there is more "House Apiary again." Well, we have a house here the size of Louisiana, that I guarantee to winter safely in. It has plenty of room to fly in, when they wish; can gather enough in November for November's consumption, and get honey again in February and March and ready to swarm in April.

On page 188, G. H. Mobley has advanced some ideas of 1846 instead of centennial '76. "Bees will clean out extracted combs and put it all in one comb—the honey. I have been often surprised on opening the hive the next day after extracting to find one comb almost full of honey and the others—extracted ones—dry and plenty of eggs." Let us know when you cut out a lot and we will give a good price for clean combs. We had several hundred built this summer, and I am sure they cost us 16 lbs. of honey for every pound of comb built, and then there is the time consumed in building them. Now please own up, or give us the secret.

[Does not SIX misunderstand Mr. Mobley?—ED.]

On page 193, Mr. J. B. Rapp gives us the proof for a queen meeting two drones. Does not the queen return with the male organ of the drone adhering to her? Has she capacity for two drones? Let us know, as I have seen them return more than once and they were satisfied to return after meeting one.

To clean combs from moths, mould, bee-bread, etc. Soak them in soft water for one day and put them in the extractor and throw out the water and filth, and set them in the shade to dry.

To disinfect combs use carbolic acid two drachms to the gallon of soft water, remain in for one day, then wash in clean water used as for mouldy comb.

Please allow us to state to the readers of THE AMERICAN BEE JOURNAL the quality of the imported queens received from Messrs. Dadant & Son. I sent for one in the winter but could not get it on account of the cold. She came May 19, I think. Mr. Lindsly was 13 days before he could induce the bees to take her. Then she received an accident, a frame hit her on the back between the second and third bands and the damage is quite visible yet. She was just the color we ordered—orange—and very stately in her motions. She is the best layer I ever saw, will fill a sheet of comb 9x17 every 24 hours. It does not stop her from laying to hold the comb out in the sun. Several have seen her laying or depositing her eggs; she stops only for want of room. Her queens are uniform in color and size.

Pointe Coupee, La., July 8, 1876. SIX.

For the American Bee Journal.

Dadant on the Purity of Queens.

See page 169, first column, June No., present Vol., in answer to J. W. McNeil. Now, friend D., I take you as one of our leading men, and am generally much interested in reading your contributions to THE BEE JOURNAL. On the question and answer here cited I will ask for more explanation, and I want other breeders of Italian bees to let us know their experience in the matter referred to above. I have had a number of queens that bred three distinct yellow-banded workers and a small portion of them would have all of the body jet black in rear of the yellow, and then the balance of the workers would be beautiful and uniform in color; but I have been dubious that they were a little touched with black blood and

would not breed from them. I have others that are uniform in color and no black tipped ones amongst them. Why is it that some of these do not get old and lose the hair off that part of the body also? I can't see why the workers of some queens are deprived of the hair and others are not.

Now, I am doubtful about their purity, and want more light from friend D. and others that have been breeding Italian bees for years. Breeders please be frank.

Virgil City, Mo., June 19. E. LISTON.

For the American Bee Journal.

Maury County Bee-Keeper's Society.

The above society had their regular meeting on Saturday, July 1.

Present: W. S. Rainey, Pres., Wm. J. Andrews, Sec., and Treas., S. D. McLean, Travis McLean, J. C. Moore. M. G. Grigsby, R. H. Caskey, J. C. McGaw, J. M. Byers, and others.

The proceedings of the last meeting were read and on motion adopted.

Mr. J. J. JONES, who was appointed at the last meeting to read an essay on honey, not being present, the appointment was continued until next regular meeting.

The President stated that he was in receipt of a letter from Messrs. Chas. Dadant & Son, accompanied with documentary evidence that they were regular importers.

MR. MCLEAN did not want to see the society entagled any further with what he regarded as a personal controversy between Mr. Andrews and the Dadants, and he thought these gentlemen should fight it out between themselves.

The Secretary said that he himself did not wish to occupy the time of the society with it, but in justice to himself, would state that he had never called in question the fact of the Dadants being regular importers of Italian bees, but had simply complained of the queen sent him and others. After some further remarks on the subject, on the part of the members present, the matter was dropped, as not belonging to the business of the society.

J. M. BYERS would like to know if it was advisable to extract honey before it was capped.

MR. GRIGSBY did not extract until it was capped or the bees had commenced to cap it over.

S. D. MCLEAN was like Mr. Grigsby, did not extract until honey was ripe, that is until the bees commence capping it over, it was then as ripe as it would ever be. He had extracted as often as every five days.

MR. MCGAW—I would like to ask Mr. McLean what causes honey to sour.

MR. MCGAW and MR. CASKEY had taken sour honey from boxes and hives.

The members then engaged in an informal discussion about honey for some length of time.

MR. CASKEY, had a number of introduced queen cells destroyed. With queen caged in hives they would nourish cells, but when he killed the queen, the bees would destroy the cells.

MR. GRIGSBY had introduced about sixty and had only ten cut out of that number. Thought it best to have queens fertilized and introduce them.

MR. MCLEAN—Cells built in free colonies are rarely cut out when introduced, but when reared in a nucleus, especially if there is a scarcity of pollen they will cut them out. Cells when just capped over are very tender, and a critical time to handle them, as the least motion will kill the embryo queen they contain.

MR. GRIGSBY—Do I understand Mr. McLean to say that the handling of the combs with queen cells in them will destroy them?

MR. MCLEAN—No sir, unless the bees are shaken from them, a thing I never do.

MR. GRIGSBY—How long after capping the cell is it before they commence spinning their cocoon? This question remained unanswered. The members engaged in another informal discussion on several topics, lasting an hour or more.

MR. GRIGSBY—I move that we establish an experimental department, for the purpose of conducting experiments, and that the President appoint a committee of three to conduct such experiments as may be agreed upon at each meeting.

The motion being seconded by the Secretary was adopted.

The President appointed as said committee M. G. Grigsby, S. D. McLean and Wm. J. Andrews.

MR. GRIGSBY—I suggest that the committee just appointed make the experiment and ascertain at what age the larvæ passes the stage of being reared into a queen; which suggestion was accepted.

MR. MCLEAN moved that Mr. Grigsby be appointed to read an essay at the next meeting on the management of an apiary to procure the largest amount of honey. Adopted.

The society then adjourned to meet the 1st Saturday in October.

WM. J. ANDREWS,
Sec'y and Treas.

Los Angeles B. K. Meeting.

The Los Angeles (Cal.) *Herald* says, that on Saturday, June 17th, the bee-keepers of Los Angeles Co. held a council, and that there was a good swarm and they settled on principle. The time was principally occupied in the discussion of marketing honey. A degree of earnestness characterized the proceedings showing that each member was wide awake to his interests.

Prof. Harbison, of San Diego, was introduced to the meeting, who addressed it upon the subject then under discussion of marketing honey. We are sorry to state that we cannot report his remarks in full. There is no man on the Pacific coast who is better posted and more competent to advise on this subject than the professor. His experience in this department of bee-keeping has been extensive. He well understands the operations of dealers and commission men who control the market. His remarks abounded with good sound sense and facts that were well received. He has had more practical experience in producing and marketing honey than any other man in the United States, consequently his opinion is worthy of much consideration. He urged united co-operation with all the honey producing counties of Southern California. The suggestion was acted upon by the meeting and a committee of four was appointed and instructed to confer with the bee-keepers of San Diego, Ventura, San Bernardino and other counties that may feel disposed to unite in the movement.

The following papers by A. J. Davidson, were read:

A BEAUTIFUL THEORY.

One fine summer morning Mr. Nectar, Mr. Blowhard and Mr. Goodwill met near a beautiful live oak tree, which furnished a cool resting place, when the following conversation ensued:

Mr. B.—Mr. Nectar, you are just the man that Mr. Goodwill and I wished to see most. We have been planning a bee business on a larger scale than most of you Californians have thought of yet. It is a very profitable business, I understand, as it does not require much capital and the labor is easy. We propose to buy a long canon in the mountains, say ten miles long, in which we could locate six or eight apiaries of 500 each, and have each swarm supplied with a new frame that I am about to patent, so adjusted with a groove that the comb can be uncapped in the hive simply by the use of a lever. This honey will then drop into troughs, which will lead to a large tank, and from this tank at each bee yard an iron pipe would lead out to a *main* pipe that would run from thence to some seaport town, Santa Monica for instance, where it could be run directly on board a vessel.

Nectar—I would like to sell you what bees I have to spare—(aside to Mr. G., for cash)—as when such stupendous operations as this one are on foot it would be well for small enterprises to veil their heads.

Mr. G.—What do you think of the relative merits of the Italian and black bees?

Nectar—It is conceded by almost every intelligent bee-keeper that the Italian is very much superior to the black bee.

Mr. B.—What do you think of the plan that I have indicated? Would you not be glad to take stock in this undertaking?

Nectar—If you would get it started and it proved a success in every way, of course.

Mr. G.—What would one of those apiaries cost without the innovations of which Mr. B. speaks?

Nectar—First, the grounds and buildings for such an apiary could not well be less than $4,000. The 500 swarms on the ground in condition for making honey, at $10 each would be $5,000. Team, wagon, and conveniences for a family, $1,000.

Mr. G.—This would be an investment of $10,000; and would this business pay 1½ per cent. per month on this investment?

Nectar—This is an open question. A man of industrious, economical and business habits of course can succeed in almost any industry.

Mr. B.—I have heard that honey could be raised for five cents per pound, and that it did not cost much to run the business, and I had concluded to run it a few years and retire, but your suggestions have knocked into pi my ideal plans of buying a stone front in the city.

ITALIAN AND GERMAN BEES.

The question is asked often "In what do the Italians excel?" 'In and in breeding' has been steadily practiced with the black bee generally from ignorance and frequently by those who knew the advantages of crossing the stock, for lack of time or having some other industry to occupy part of the time during the breeding season; while with the Italians, queens have been imported generally by good practical breeders and in many cases it is thought stock has been improved by home culture. Then it is logical to infer that if both were alike good when first imported that we would have to give our verdict in favor of the Italians. But when we take into account that they have more strength, can fly farther, and that they have the ability to collect honey from certain trumpet-shaped flowers that the black bee cannot, that they work earlier and later and are more prolific, these advantages no doubt account for the superior condition of Italian swarms in very trying years when bee forage is scarce. The summer of 1875 for example. There are many things admired and esteemed solely for their beauty. And for those of an æsthetic taste our rich, golden colored favorites would certainly be preferred. And finally I would say it is easier for bee-*keepers* to *keep* bees that will *keep* themselves.

For the American Bee Journal

My Bees.

I went out June 12 and spent a few days with my bees. I found they had gained in strength, but the strong ones had gained more in proportion than the weaker ones. The very weak swarm, which was dwindling at last report, had succumbed; so, out of 40 put in the cellar last winter, I lost 8 in wintering. I had bought two more colonies from Mrs. Adam Grimm, which made 34 to commence the season with. I extracted 110 lbs. of honey and started 9 new swarms by merely putting in an empty hive a couple of frames of brood with the bees attached, and one or two frames of honey, shaking in some more bees if necessary. Of course all the old bees will fly back to their old home but the young ones will remain and raise a queen. Having the assistance of Dr. H., an intelligent and interested observer, made the work pleasanter. June 28, I visited my bees again but could only spend one day with them and so left the most of them untouched. I took 160 lbs. of extracted honey and started 10 more new swarms. To each of the new swarms, which I had started on my previous visit, I gave a couple of frames of sealed brood.

I would have started more new swarms but had no more hives ready. It is strange how difficult it is to get hives made exactly as you want them, unless you make them yourself. Last summer I had some made and by a variation of a quarter of an inch in one of the measurements, I could not put a single frame in the hive. Men seem to think that a variation of an eighth or a quarter of an inch does not matter because it's only for a bee hive. I first thought of having frames made shorter so as to fit these 24 hives, and did try two or three of them, but I found myself coming to these hives without thinking, with frames of brood covered with bees from other hives and obliged to whittle off the ends of the top bar of the frame, before getting them into the hive, so I had the whole 24 hives changed. I should have bought, this summer, material ready to nail together, from Oatman & Sons, but feared that in some way there might be some difficulty, as the size of my hives was a little different from the ones they were regularly making.

The having more than one kind of hive in an apiary is a great inconvenience, much

greater than any one will suppose who has not tried it. Whoever starts with more than one kind will sooner or later be sorry for it, and I cannot urge too strongly upon those who have as yet only five or ten colonies to discard all but one kind of hive.

July 10, I went out and found the bees had been doing some swarming in their own way, as I expected they would. Although I had stopped making swarms for want of hives, my wife was not to be balked in hiving the natural swarms that came, so she fixed up all sorts of hives and yet in such a way as to have frames in them, so that with very little trouble I was able to transfer them, frames and all, into hives which I made. Eight or nine natural swarms were thus saved, and I am afraid I should not have done so well with the material at hand. Three natural swarms came out while I was there. In the case of one of them, I waited for them to return to the hive after settling, as I had seen the queen but a few weeks before and her wings were clipped. To my chagrin they arose in a body and sailed off majestically for parts unknown, leaving me an unwilling spectator of their flight. I consoled myself with the thought that before many weeks I would be with them every day and then they would not play me many such tricks. They had undoubtedly raised a young queen, having probably swarmed some ten days or two weeks previous, and their old queen had been lost or killed.

I overhauled all of the colonies taking from the strong ones frames of sealed brood to give to the young swarms I had started, and also to the natural swarms I gave one or two frames of brood each. I took about 625 lbs. of honey, nearly all extracted.

I have been best satisfied with rotton wood for smoking bees. That from maple, beech or other hard wood, having the dry rot, if just right, will hold fire and slowly burn until all is consumed. Sometimes, however, I have had no rotten wood on hand and almost anything can be made to do in a pinch, after a fashion. A pipe or cigar is convenient for smokers but I don't think I should want any tobacco about my bees, even if I were a smoker. A roll of rags makes a pretty good smoke. Wood which is not properly rotted, and even that which is perfectly sound may be made to do. Take an ash pan having the bottom covered with ashes and live coals and put therein two or three pieces of wood with the ends well burnt having the burnt ends on the coals and you will have a good smoke, the only trouble being the danger from sparks flying in the hive. For a sudden use, where you do not care to keep the fire burning, even paper will do very well. Roll the paper losely together, and after setting on fire, put out the blaze, and for temporary purposes it does very well.

Lately, being out of rotton wood, I have been well pleased with corn cobs. Keep three or four cobs burning together in an ash pan with hot coals, and if the cobs have been previously well seasoned or baked in an oven, they will keep up a steady fire without blazing. Of course different materials can be used in a smoker of any kind.

A word as to the manner of blowing. A continuous stream is not so good as shorter puffs. A continuous stream makes more perfect combustion, more fire but less smoke.

If blowing with the mouth, do not empty the lungs, but take in full breaths, only blowing out at each puff the extra quantity in the lungs. This will prevent dizziness.

B. LUNDERER.

For the American Bee Journal.

Albino Bees.

Being requested by many to give a description of the Albino bees, I will do so, hoping by this means to remove some of the prejudice formed against them.

When first I discovered them I was surprised and did not know to what to attribute it. I applied to different persons for information, and was advised to continue breeding them until I obtained the pure stock. I did so, and in my experience have found them to be as I shall now attempt to describe them.

As to their markings, the difference between them and the pure Italians is very striking. The head in color approaches near to a purple. Beginning at the waist, they have first three yellow bands, then three white bands, all the bands being very distinct. The white is not muddy and dirty but pure. The wings are finer and of a lighter color than those of the Italian. The only marking of the drone is the hair around the waist being white, giving to it a clean and pretty appearance.

As to breeding, the queens are very prolific. Pure Albino queens produce pure Albino bees. If an Albino queen mates with an Italian drone, one half of the workers will be pure Albino and the other half will be pure Italian. I have never seen any bearing the marks of Italian and Albino mixed. The markings will not be mixed as in a cross between the Italian and black.

I have found them to be better honey-gatherers and more gentle than any other race of bees I ever possessed.

Smithsburg, Md. D. A. PIKE.

For the American Bee Journal.

Notes from Southern Indiana.

Our honey season just closing has been unusually good. Generally, we have to depend on the poplar for our main supply of surplus honey, but this year we have had in addition to the poplar an unprecedented amount of white clover. Its white bloom seemed to be everywhere—along the wood side, in the old pastures, in the meadows, in the lawns—wherever it could crowd up its head. The very breezes were laden with its fragrance. The bees were literally "in clover," and right well they seemed to enjoy it.

I have nearly all my bees in two-story Langstroth hives. Heretofore I have been able to keep them from swarming in those hives; perhaps I could have done so this season if I had kept the honey closely thrown out. But this I could not do, and the bees got the start of me. Before I suspected it, I had several exceedingly large swarms—some of them would have well filled a half bushel measure. Although these were the first swarms I had had for six or seven years, I had no trouble in finding them comfortable homes.

The honey is of an excellent quality—thick and of superior flavor. I am not trying to sell any of it; I find a very good demand for it at my own table. What I can't

dispose of there, I can give away to my friends. I find this a superb way to make and keep friends. I don't know any more appropriate present to make, or one more pleasingly received, than a few pounds, or a gallon or two even, of nice extracted honey. Try it my bee friends, I assure you it will do you good, as well as the friend to whom you give, and you will be surprised to find how kindly it will make your friend feel and act towards you. Honey is a great pacificator with the human as well as with the bee family. M. C. HESTER.

For the American Bee Journal.

City Bee-Keeping.

We had a very good honey season, both as regards quantity and quality. Having my bees on the roof of a house, and in the city, puts me to disadvantage when compared with my brethren in the country. My bees have to fly too far to pasturage; and yet up to last Saturday, I had 3,020 lbs. of choice, extracted clover honey from my 22 stands of bees. Some of my neighbors beat this very much, but I have convinced myself that nearness of pasture was the cause of it. Their stands were not stronger than mine, but their honey was coming in faster. There is enough honey with my bees yet, ready to be taken off, to make it average 150 lbs. to the hive, or more. And this is a great deal more than our average used to be, 10 or 12 years ago. The average of 15 to 20 lb. to the hive was considered a great harvest at that time. Should we grumble now if we can't sell all our honey in a hurry? The honey market is dull at present, as usual at this time of the year. A month or two later it will be in better demand, however. CHAS. F. MUTH.

Cincinnati, O., July 15, 1876.

For the American Bee Journal.

Foul Brood.

I noted in the last number of the JOURNAL mention of cure of foul brood by the use of salicylic acid. The method is substantially the same as that which I discovered and published, with the use of sulphite of soda. And I have no doubt but that the acid will cure equally, if not more certainly than the sulphite. Both are powerfully disinfectant and destructive to parasitic growths and germs.

If I could have found any foul brood in this region I would have experimented with this remedy, and also another new one (new ones are being constantly discovered) called sulpho-carbolate of soda. Salicylic acid is perfectly harmless, and is obtained from various sources, one of which is from salicine, the active principle of willow. Meadow sweet and wintergreen also contain it, but the principal source of supply is from phoenol, one of the products of coal tar. When largely diluted it is not unpleasant to the taste. This with sulpho-carbolate of soda we use freely and successfully in diptheria, as an internal disinfectant. If any one is experimenting with foul brood I wish that sulpho-carbolate of soda might have a fair trial.

I have no doubt that foul brood can be thoroughly cured in any hive by disinfectants. But there is no *certainty* of a cure unless every cell of honey which was sealed while the hive was diseased, and every cell which contains diseased larvæ, and every empty cell even, is thoroughly disinfected. And it makes but little difference what the disinfectant is, provided it is harmless to everything but the disease and is a thorough disinfectant. But does it pay? If valuable life was at stake, either human or animal, no amount of pains would be too much to save it, but to my mind the bother and uncertainty of curing a hive that could be so easily replaced amounts to more than value received, except the pleasure of the consciousness of having mastered the enemy, *ie.* cured it. EDWD. P. ABBE.

New Bedford, Mass.

For the American Bee Journal.

Queen Trap.

I wintered 50 stocks of bees out doors; the season here is late, but bees are doing well now. I used a queen trap for the last 5 or 6 seasons, with very good success, catching the queen of first swarms and the swarm returns to the hive after discovering they have no queen. By taking the trap containing the queen from the old hive which is then removed, and an empty hive with the trap and queen put in its place, the swarm as it returns passes through the trap taking the old queen with them into the empty hive. Sometimes they will cluster and stay 15 or 20 minutes, and at other times hardly give one time to change the hives before they return. Of course, movable frames are necessary in managing bees this way, as in three days after the first swarm has left, the old hive must be examined and all queen cells but one cut out, and the hive left without a trap on it, or the young queens could not get out to mate with the drones. This trap also retains all the drones that pass into it, and they can be destroyed, let fly, or returned to the hive, as you wish. GEORGE GARLICK.

Warsaw, Ontario, June 17, 1876.

From the Maine Farmer.

Surplus Honey.

A very good way to afford the bees room to store honey, is to cover the hive with section boxes. These I have made 5 inches high, the ends of the sections 1¾ in. wide, the tops and bottoms 1¼ in. wide. Thus it will be seen the ends are close fitting, while the top and bottom will be open so that the bees can pass through. By attaching comb to the top bars the bees will generally build within the bars, so that when filled the section can be separated, each section containing a single comb. The hive can be entirely covered with these sections, and when partly filled raise the whole up and place another set beneath, and the bees will readily pass down through; and if the honey season holds out, fill both sets, and in good seasons perhaps more. If these section frames are placed across the hive it would make the sheets of comb rather unwieldy to handle or to transport to a distance; so I think it better to place a rest aeross the centre on top of the frames, and place two shorter sets of sections lengthwise of the hive. There is another advantage in this way, and that is, as the combs run the same way with those in the frames in the body of the hive, no harm will arrive

if the hive is not level from front to rear, as would be the case in having the sections placed the other way. To keep these sections together while handling, a case made of thin stuff should be made, with a thin strip nailed around the bottom to prevent the sections slipping through. By placing them in this case, they can be put on or taken off without trouble.

If boxes are used, I find it better to make them large enough to have them cover the hive if placed cross-wise. The boxes can be made of a size to suit one's fancy, large or small, though I prefer larger ones, having the set just cover the hive, placing rests upon the bars for the ends of the boxes to rest upon, raising them as high as the sides of the hive project above the frames; thus giving the bees a full passage between the boxes and the top of the frames. I think it well to bore two holes in large boxes 1½ in. in diameter for ingress to the boxes. In one side cut out a circular piece 3 inches in diameter, covered with glass upon the inside by which to display the contents of the box. When the boxes are removed after being filled and the bees have all left them, cover the holes with cloth pasted tightly over them to exclude the moths. This is not always sure to exclude them, however, and consequently they will need looking after occasionally. M. F.

From the English Manual of Bee-Keeping.

Pasturage for Bees.

With the exception of an occasional gathering from honey-dew, bees gather the whole of their honey from flowers, and consequently where there are no flowers they cannot thrive. But the term flowers must be taken in a broader sense than meaning such as we cultivate for garden ornaments or home decoration. The inconspicuous blossoms of many trees, the wee modest wild flower, scarcely noticed by passers by, furnish abundant pasturage for bees. Many persons who have lived in the country all their lives, are scarcely aware that our noblest forest trees have flowers at all, but from the brave old oak and the wide spreading beech, bees gather many a pound of honey. An avenue of limes or sycamores, a field of beans or white clover, form a very El Eldorado for the busy bees, their pleasant hum on the snowy hawthorn or the sweet-smelling sallow, (palm, as it is commonly called) is very noticeable when nature is awakening from the gloomy sleep of winter, and our thoughts and feelings are glad with the prospect of returning summer. Where large heaths abound, the bees have a second harvest, and it is a common practice in such localities for bee-keepers to send their hives to the moors for about two months, the trouble and cost being amply repaid by the immense weight of honey brought home, which the common heather yields freely during August and September.

In Scotland and on the Continent cart-loads of hives may be seen traveling to and from the heather. Often they are looked after on the spot by some resident cottager who receives a gratuity of 1s. per hive from the proprietors of the stocks. In the south of England this practice is not pursued, although I do not see why it should not be in many places, there being miles of heather equally available as in Scotland. On the Nile there are bee-barges which travel only at night, stopping in the day-time at any place that affords abundant pasturage for bees, and we read in *Pliny* that this was likewise the practice in Italy in his time. "As soon," says he, "as the spring food for bees has failed in the valleys near our towns, the hives of bees are put into boats and carried up against the stream of the river in the night in search of better pasturage. The bees go out in the morning in quest of provisions, and return regularly to their hives in the boats with the stores they have collected. This method is continued till the sinking of the boats to a certain depth in the water shows that the hives are sufficiently full, and they are then carried back to their former homes, where the honey is taken out of them." And this is still the practice of the Italians who live near the banks of the Po, the river which Pliny instanced particularly in the above-quoted passage. It was the advice of Celsus that after the vernal pastures were consumed, the bees should be transported to places abounding with autumnal flowers, as was done by conveying the bees from Achosia to Attica, from Eubœa and the Cyclad Islands to Scyrus, and also in Sicily, where they were brought to Hybla from other parts of the island. What portion of our fertile land does not afford sustenance for bees? Mr. Alfred Neighbour, in his work, "The Apiary," devotes a chapter to Bee-keeping in London. Could we ever imagine a more unpromising field for honey-gathering?—London! Foggy, smoky London! But think a moment. London has parks, squares, gardens, and each of these has trees, flowers and shrubs. What matter if the flowers be dirty—their nectaries secrete the coveted sweet, and the natural filter of the bees will clarify it better than any artificial one could do. Only last year a lady living in Kensington told me she kept bees there. They throve well and had furnished her with a super of fourteen pounds weight. It has been asserted that bees will fly five or six miles for honey, if a supply nearer home be not attainable. They may, but such an extreme labor would not allow the stock to thrive. Too much time and muscular strength would be consumed in making the journey. The great danger to bees is their liability to be tempted into shops, such as grocers, confectioners, etc., where they get bewildered, fly to the window, and in vain attempt to penetrate the glass, they die. Breweries are also fatal places, the sweet work attracting numbers which perish by drowning.

Most bee-keepers have a garden, and in it can be grown many flowers pleasing to the eye, grateful to the nose and useful to the bees.

Mignonette, borage, honeysuckle, hyacinth, crocus, laurustinus, lavender, lily, primrose and many other flowers are visited by bees, and may well be cultivated with advantage. The arable fields supply buckwheat, beans, mustard, clover and lucerne, which all give an abundant supply of honey; and if we follow America's example, we should sow, when possible, special bee flowers.

Borage has the reputation of being the best of all bee flowers. It blossoms continually from June till November, and is frequented by bees even in moist weather.

The honey from it is of superior quality, and an acre would support a large number of stocks.

Dwellers in the country cannot fail to have observed occasionally, that the leaves of the trees and shrubs have a gummy appearance and are sticky to the touch. If a leaf so covered be put to the tongue it will taste sweet. This is honey-dew, and is a secretion of some spieces of aphides, ejected from their abdomen in little squirting streams.

This substance the bees readily gather, and when it is abundant make large additions to their stores. It is generally most plentiful in June or July, and is chiefly found on forest and fruit trees, although often on low-growing bushes. At the season of its greatest abundance, the pleasant hum of the bees engaged on it is very audible. JOHN HUNTER.

From N. Y. Grocery and Provision Review.

National Bee and Fish Culture.

Bee culture—hitherto one of our most neglected yet most profitable industries—is gradually attracting increased attention and slowly assuming its proper importance among our sources of national wealth, while our exports of its product—honey—are already reaching considerable proportions since the production has begun to exceed the demand for home consumption. As we consider the neglect of our people to develop this industry, and the unlimited capacity of the country to produce this wholesome and nutritious article of food, and the annual enormous waste of the product of one vast department of Nature—the floral kingdom—we are tempted to moralize upon the proverbial waste and extravagance of the American people. So many have been our sources of vast and almost inexhaustible wealth, already employed and developed, that we had neglected to look about for wholly unemployed sources, and in the eager pursuit of old, we saw no new ones. This state of primeval extravagance and waste is slowly giving way, however. before harder times, denser population, higher values, and the causes which always operate as a community grows older, to utilize more and more its resources. This tendency has been seen for some years past, in the experiments of our State Governments in the direction of fish culture, until many of them have now a fish commissioner, whose duties are chiefly to stock their rivers which have been deprived of native fish, and to restore this great and almost lost natural source of cheap and free supplies of animal food.

Why should not our governments—national and state—stock our fields with the "busy little bees," as well as our streams with fish?

The untold and unknown wealth of flowers is now largely wasted. Like rivers they are performing but half and less than half their natural functions. It would, perhaps, cause a smile of derision to suggest the paying of the national debt by stocking the country with bees. Yet the opinions of authorities, and their estimates, state that the unutilized honey of the flowers is wasted annually in sufficient quantities, for want of bees to gather it, to pay the interest, if not the principal of the national debt. Mr. Harbison, the great apiarian of California, estimates that the evaporation of honey from the flowers of that State causes an annual loss greater than its gold product. Why then should not this industry receive government recognition as well as fish culture? Here is one vast domain of nature, created not only for the eye, but for the taste and the stomach, left literally to "waste its sweetness annually on the desert air," while millions of our people are but half fed, and all, simply for the want of the "busy little bees" to gather it, whom our ignorance, cruelty and neglect have left to be destroyed, yearly, in order to get the fruits of their labor, which, by a proper system could be made to yield more than four-fold greater returns, and at the same time not rob these workers of their winter stores. Certainly the government should take steps to protect the most productive and industrious of our "workers" from the ruthless depredations of the human drone, and at the same time repair the damages done by their decimation, by importing Italian queens for breeding rapidly, as is now the custom among apiarists. This can be done more rapidly than fish can be bred, and there is no good reason, in fact none at all, why this step should not be taken.

Indeed, we are told, that those interested in bee culture will endeavor to place the matter before Congress at the next session, with a view to this end, and we hope such will be the case, and that it will succeed.

From the Phrenological Journal.

The Australian Bee-Hunter.

Insect food is much esteemed by the Australians, especially honey. In the procuring of the latter they show great agility and no little ingenuity; but it will be seen that the intellectual skill of the American bee-hunter has a great advantage over these untutored savages. When a native sees a bee about the flowers and wishes to find the honey, he repairs to the nearest pool, and, having filled his mouth with water, stretches himself on the bank of the pool, and patiently awaits the arrival of the bee. After awhile one is sure to come and drink, and the hunter, watching his opportunity, blows the water from his mouth over it, stunning it for a moment. Before it can recover itself, he seizes it, and by means of a little gum attaches to its body a tuft of white down obtained from one of the trees. As soon as it is released the insect of course makes for its nest, but its flight is somewhat retarded by the down. Now ensues a race. Away goes the hunter after the bee at his fullest speed. Whatever obstacle he meets with on his course he leaps over or plunges through, if possible, making light of the severe bruises from falls sustained in his headlong career. Having thus tracked the bee to its nest, the Australian looses no time in ascending to the spot, if in a tree, taking with him a hatchet, a basket and some dry leaves of grass. He lights the leaves, and under cover of the smoke, chops away the wood until the combs are exposed, then putting these in his basket, he descends and departs with his booty. Should the nest be a very large one, he is supplied by his friend, whom he acquaints with his discovery, with baskets or other vessels for its transportation from the tree to his hut.

Our Letter Box.

Webster Co., Iowa, July 8, 1876.—"Basswood is in full bloom. Bees are busy. I expect to extract on Monday. I have 33 stands, and they never have done better than this spring." E. A. TAYLOR.

Piatt Co., Ill., July 11, 1876.—"Bees are doing well here this season. I prize THE JOURNAL very highly, and hope soon to send you a few more new subscribers."
J. KEENAN.

Harrison Co., Mo., July 7, 1876.—"Bees never did better in this county than now."
ISAAC S. BRYANT.

Windsor, Ill., July 6, 1876.—"Bees are doing unusually well in this neighborhood. Our surplus is usually obtained in the fall only, but I have already taken 800 lbs. of white clover, about half comb and half extracted." H. F. SMYSER.

Madison Co., Iowa, June 24, 1876.—"I had full 2,000 lbs. of honey last season. Our bees averaged 50 lbs. or more to the colony, last season. I lost none from disease in the winter." MOSES BAILEY.

Indianapolis, Ind., July 8, 1876.—"I have had good success with my bees. I wintered 40 colonies, and lost but one, and that was queenless. I sold 2 early stocks for $40, before increasing; since then, have sold 15 more at $15 each, and have extracted 1,000 lbs. of honey. I have now 120 stocks in good condition, which I can dispose of at $10 each. I wish the old AMERICAN BEE JOURNAL much success."
W. A. SCHOFIELD.

Buchanan County, Iowa, June 27, 1876.—"My bees are doing well. I lost but one swarm in wintering. In the spring of 1875 I had 7 swarms. I sold $80 worth of box and extracted honey, and put 21 swarms in the cellar last fall. I got 20 to 25 cents per pound for the honey. THE JOURNAL has been of great service to me. I could not get along without it." E. P. BRINTNALL.

Douglas Co., Kansas, July 14, 1876.—"My bees are doing finely. Have 40 stands Italians and hybrids." C. E. DALLAS.

Marshall Co., Ill., July 17, 1876.—"I have now 41 stands of bees, and they have done well this season. I am making what I think is the most convenient hive. I have been thinking of sending one to the JOURNAL office; but as it is *not patented* don't know that it would pay me to do so, unless some might wish to make others from it—only buying my sample. I have sold over 200 hives to one man for his own use.
JOHN ROBERTS.

[If you send us one, we will examine it, and state what we candidly think of it.—ED.]

Hancock Co., July 17, 1876.—"My bees are doing well. I started with 16 colonies this spring, and now I have 52 colonies in good condition." WILLIAM THOMAS.

Fulton Co., Ky., June 11, 1876—"My bees are doing well this spring. From a few stands I got 120 lbs. nice extracted honey; obtained from a small white clover, the first I ever got from such. Some stocks were weak in the spring, owing to the effect of cheap hives. I always get my main crop in the fall." G. ILISCH.

Warren Co., Pa., June 7, 1876.—"I cannot consent to forgo the pleasure of the monthly visit of your excellent JOURNAL. With the exception of one or two numbers, I have a complete file from No. 1, Vol. I, to the present time. I have ten Vols. bound, and I prize them highly. My 150 colonies of yellow Italians make melody in the valley of the Brokenstraw, among the hills of the old Key-Stone State, with their busy hum. Long live THE AMERICAN BEE JOURNAL!" W. J. DAVIS.

Hadley, Ill., June 17, 1876.—"I have kept bees for the last 20 years and I never knew that the common speckled grass frog would eat bees till to-day. I saw one sitting on the bottom board; I caught him; he had a number of bee stings in his mouth. I looked around the bee yard and I caught four; all had bee stings sticking in their mouths. Henceforth, I shall send all frogs caught in my bee yard to the frog land. My bees commenced swarming last week. The pastures are white with clover, and it is yielding honey this year. We are having a great deal of high wind for this time of the year. I have 94 stands; the most of them in fine condition. Some of the best ones worked a little in boxes during fruit blossoms. My bees are almost all pure Italians. It looks now as though we were going to have a good season once more." F. SEARLES.

Sangamon Co., Ill., June 15, 1876.—"We have a remarkable white clover crop, and where bees were in a condition to gather, there are no lack of good results, but many colonies derived but little from a profuse fruit bloom, in consequence of early cool weather; they were too feeble to take the floods of nectar that perfume the atmosphere in this section. There has been much swarming from box hives and the smaller brood chambers, but where 2,000 cubic inches of brood chamber are provided, it is more rare. With me there has been a terrible fatality with queens, having lost 5 out of 12 colonies since I put them on their summer stands. In some cases it was too early to raise queens and I doubled up the swarms. Three at least, did not die of old age. I have blacks, hybrids, and Italians, but the 'golden bands' will keep ahead."

July 5.—"Honey flows abundant. Bees scarcely halt for dripping honey, if at all, and where properly managed (not managed to death) will make handsome returns for spring and summer. Have had fatality with queens that has puzzled me—unless the almost unparalleled number and variety of birds is an answer, for young queens. I am satisfied that bee culture can be made a success here, though but little forest range within reach of us. Am pleased at the better spirit that prevails in the fraternity. Less hobbies and more truth-seeking, more live and let live. Ye editors have much to do for the general weal."
W. W. CURNUTT.

Old Fort, N. C., July 21, 1876.—"Bees are doing well here." RUFUS MORGAN.

Allen, Mich., July 20, 1876.—"My bees have done splendidly this season, had 4 swarms in the spring and have 19 now, all Italians; no other on my place."
R. SOUTHWORTH.

Schoharie Co., N. Y., July 12, 1876.—"My bees are doing well, but I hear complaints from other bee-keepers that their bees are not doing what they ought to, in box honey or in swarms; and that they are weak. One man told me that he had a capital hive last season; it sent out three swarms, and that he would not take $10 for it. I remarked to him that if he and the old hive lived until the next spring, that he would be glad to accept a less offer for it. He was positive that it would live over, and wouldn't thank any man to offer him less than $10 for it. But alas, it went under last winter. I could not prevail on him to return all swarms after the first. The weather here for a few days has been quite warm.
ABM. L. STANTON.

Carroll Co., Iowa, July 13, 1876.—"My bees are doing well. I have 25 stands, some Italians and some blacks. I like the Italians best. As to their crossness I don't see much difference. I have kept bees three years. and have been taking the AMERICAN BEE JOURNAL during all the time; I like it well, and wish it success." R. DICKSON.

Dodge Co., Wis., July 18, 1876.— "It is quite a while since I last wrote. I had quite a rough time this spring. I had too much to take care of, as much as 20 different apiaries, and 24 miles between the farthest; besides I have to furnish all the materials for them, so I was not out of employment. We don't believe in box honey here. We get at the rate of 12 lbs. per day now by using little frames on top, 6x17 in., 9 to the hive. We can't use comb honey; for honey is so abundant now that we must empty every 3 days. I have opened several to-day and found the entire centre as well as the side crowded with honey; now, what will become of such a hive, with all boxes on top? Get the swarming fever and swarm until no brood, no bees, or queen is left. I also made more discoveries worth telling, but I will only mention one. I am particular to get nothing but pure stock, and keep only pure drones. I had a queen to-day that was getting ready to fly. I went to the best stock, got 25 or more drones, put them in the nucleus and watched for an hour. I then opened, and to my surprise, the queen was fertile. I am sure of two, with both good wings. You can't dispute this with me, for I watched in front.
JOHN H. GUENTHER.

[This rather sounds as if fertilization had taken place within the hive. The ability to control fertilization is very desirable, but most bee-keepers have given it up as unattainable. There have been a good many reports of success but somehow it always turned out that there had been some mistake in observation. We hope, however, friend G. will continue his experiments.—ED.]

Madison Co., Ill., July 21, 1876.—"In middle and southern Illinois, the spring season was late, but the summer came in well, and has given strong increase of swarms."
HENRY BOSSHARD.

Hamilton, Ont., July 11, 1876.—"The Rubber Gloves you sent me are received. I was informed that bees would not sting through them—but I don't want anyone to say that again." J. A. WATERHOUSE.

[We think it is something rare for bees to sting through rubber gloves, but we think most bee-keepers would consider any kind of gloves a nuisance.—ED.]

Waterloo, Pa., July 19, 1876.—"Bees are doing very well here thus far—not swarming much but laying by large stores of honey. With Winder's Choice Extractor in use they can be made pay a large per centage this season. I am using the Farmer's Hive, by Reynolds & Brooks, with my own improvement for wintering. For extracting and general convenience and ability, I think it has no superior. I have an Italian queen 5 years old, doing well. This season she has produced as many bees and as few drones as any queen in my apiary of 38 colonies. She is unusually large and her bees great workers. Can any one beat that?" J. E. KEARNS.

Grand View, Ky., July 17, 1876.—I have one stand that has swarmed three times. While one of my young queens has plenty of room, I frequently find two or three eggs in one cell. Why is this? J. C. STITH.

A young queen on first commencing to lay sometimes works a little irregularly. Whilst there may in some cases be plenty of empty comb there may be only a small portion properly taken care of by the bees, in which case the queen may lay more than one egg in a cell.—ED.]

I have 20 stands of bees, part black and part Italian. I made an effort and have partially succeeded in Italianizing my blacks. Have met with singular experience in so doing. I have not failed in one instance to get my queens to come out of cells all right, but 3 to 5 days after they hatched out the queens would mysteriously disappear. I am not mistaken in this, as the colonies would again accept queen cells. I have lost 20 or 25 queens in trying to Italianize 15 stocks. Has any of your readers had such trouble? I have tried so far in vain to learn the cause of the disappearance of my fine queens." J. H. W.

Your queens were probably lost on their trip to meet the drones. A young queen on her bridal trip may be caught by birds, or she may enter the wrong hive on her return and be killed by the bees. The latter is more likely to occur if the hives are near together and of the same color. Such a large loss is unusual.

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☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

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COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

WHEN your time runs out, if you do not wish to have the AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, SEPTEMBER, 1876. No. 9.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

GLEANINGS.

Novice says: "After some quite expensive experiments in the way of greenhouses, house apiaries, etc., we have come back to the out-door arrangement for hives." A sensible conclusion. He then advises the hexagonal arrangement, with hives 6 feet from centre to centre, with honey house in the middle and grape trellis to each hive. This is a good arrangement where the ground is all clear, but in the majority of cases, trees, buildings, etc., already standing, will have much to do with the location of hives.

How to Keep Box Honey.—G. M. Doolittle says:

Box honey should be kept, if possible, in a honey house made for that very purpose. This house should not be over 7 feet high, and should be large enough to hold all the honey you think you will ever produce, with room enough besides, for crating it. Some one asks, "Why not have a house higher?" Because we want to secure all the heat possible without a fire, during August and September: for this heat causes your honey to grow thicker every day instead of becoming transparent and standing in drops on the surface as did Mr. Wolfenden's. Honey swells only as it becomes damp from some cause, and the first you will see of that dampness will be in the unsealed cells, where the honey will have become so thin that it will stand out beyond the cells; or in other words the cells will be "heaping full." If the dampness remains, the sealed honey will become transparent, and eventually soak through and stand in drops on the surface of the comb. Now if you keep the room thus warm you will be liable to be troubled with the moth worm. Let your first honey taken off be separate, examine it every few days, and if you see many boxes with little white places on them (generally near bottom of box) resembling flour, you will have to brimstone it, as the moths will eventually eat the sealing all off and make a bad job of it.

We have always sulphured our honey with the exception of one year, the last thing before crating it. To do this, fix a solid foundation of scantling two feet above the floor, on this place your honey and whenever you think the moth should be headed off, get a pan of coals and set them in a kettle, or fix in some way to prevent danger from fire, and pour on ¼ lb. of sulphur to every 200 cubic feet contained in your room. Sulphur the last thing before crating if you wish to get a name as producing nice box honey. We have frequently seen honey in market with moth worms in the boxes from 1 to 1¼ inches long and nearly as large as a pipe stem. Such honey is not very tempting to the consumer. Pile the boxes so that all entrances will be open. The section boxes are nice on this account, as they will pile compactly tier on tier, and still leave ¼ inch space between every comb all through the pile. Never let box honey freeze on any account, as it cracks it loose from the box or through the centre of combs when it contracts. If you do not sell before freezing weather comes, keep fire in your room night and day. To deliver honey in cold weather, pile the crates up so the air from your room can circulate all around each crate, keep the temperature of room from 90° to 95° for 36 hours before moving it, and it will ride in open air 25 miles on a spring wagon, before it will get cold enough to be brittle.

With regard to marketable size of honey packages, Novice says:

A honey box can scarcely be made, to be sold, honey and all, for less than a half dollar; and a four or five pound box, even at the low price of 25 cents per lb., amounts to over a dollar. You may place them so as to catch the eye of the passer by, and they will inquire the price, but the number that can spare a dollar are few, compared with those with those who will hand over a quarter, or 30 or 40 cents for one of the neat little square cakes such as the section boxes contain.

Time to Divide.—Novice says: "We think it an excellent plan to divide very strong stocks after the honey harvest." We want light on this subject. May it not be a good plan for some and a bad one for others? The honey harvest in some places comes quite early, and in that case it would seem to be wise to keep the whole force gathering honey until the main harvest is over, and then divide. In other places the main harvest comes very late, and it would then seem wise to divide early, and build up an increased number of colonies to be ready for the harvest. Does it not require more judgment and experience to make an artificial swarm later in the season? There is a possibility of an insufficient amount of pollen being left in one or the other of the

hives, of the honey not being properly distributed in the hive etc.

LLOYD Z. JONES says in introducing a queen it is important to put a little honey on her back and stick her wings down so she can't *squeal*.

NOVICE advises against the use of rosin in waxing honey barrels as it in time gives a bad taste to the honey.

BEE-KEEPERS' MAGAZINE.

CARE OF COMB.—In an able article by Rev. J. W. Shearer, he advises that old comb, if not rendered into wax, should be burned, lest it become a nursery of moths. This advice is so generally given that we think there must be some occasion for it, but in our own experience we have never had the bee moth trouble pieces of comb lying outside of the hive, even if left the whole year. May it not be that the difference in climate has something to do with it? In the latitude of Chicago, perhaps the nights are too cool for the deposition of eggs, without the presence of the bees to keep up the heat.

MIGNONETTE.—In reply to a query, Mr. James Vick, the celebrated seedsman and florist, says mignonette is an annual, which in northern latitudes does not re-seed the bed, but must be sowed anew early in the spring, as soon as frost is gone and soil in good condition. Succeeds in any fair soil and in a growing time will flower in 4 to 6 weeks after sowing.

BEE WORLD.

The present number of the *World* closes a controversy between two queen breeders which has occupied a large space in the *World*, and the matter closes just about where it began, each party saying he has his last say. We can only ask, "What has been gained by occupying so many pages with a personal quarrel of no interest to the mass of readers?" Would it not be better to avoid the beginning of strife by carefully excluding all bitter personalities, allowing at the same time the fullest discursion in a kindly spirit of all points pertaining to bee-culture?

BRITISH BEE JOURNAL.

British bee-keepers were almost discouraged with the unfavorable season during the early part, but now are jubilant over the unusual flow of honey in July.

In a lecture by J. G. Desborough, he gives America the credit of inventing the honey slinger. The credit belongs to a German—Major Von Hruschka. It is said the idea was first suggested to him by seeing his little son whirling around in play a small pail to which was attached a string. In the bottom of the pail was a piece of comb honey, and the Major noticed that the honey was emptied out of one side of the cells. The hint was not lost, and the result was the extractor.

A poet speaks of the rose as furnishing supplies for the bees, and in a foot note the editor says "A poetic fancy, but not fact." Brother Abbott, you have only part of the truth. A few weeks ago we saw a honey bee and a humble bee both working on roses on the same bush. The imperfect roses, resulting from high culture, although beautiful to look upon, are not the sort that bees love to visit; but the wild rose, which produces seed, is visited by the bee. The same remark is made about the peony; but is it not just possible that the single peony, which produces perfect seed, yields honey also?

Fort Plain, N. Y., Aug. 11.—I send you by mail a queen of this year. She is laying eggs since June, which are barren; not a single egg of hers has ever hatched. If you think it of any interest I would beg you to try and find out by the microscope whether the fault lies in her organs or the eggs.

JULIUS HOFFMAN.

The queen from Mr. Hoffman was a fine Italian, very long considering her late journey, and to all appearances perfect within and without. The spermatheca was very full and plump. The ovaries large, and the tubes full of ovules. The oveduct contained several eggs. The only explanation that can be offered in such a case is that the eggs are sterile or not perfect.

We know that among our vertebrate animals we frequently see females that have perfect ovaries to all appearance in which the eggs grow, and yet the females are sterile or barren. Of course the egg is imperfect.

The egg is by no means a simple affair. The yolk or essential part possesses a nucleus and a nucleolus, called germinating vesicle and germinative dot respectively. Now it is probable that these sterile females, though possessed of ovaries in whose folicles eggs grow, are yet impotent to produce these essential parts. With the microscope I had I could not tell in regard to this.

A. J. COOK.

☞We would like a full report from all who have tried melilot clover, borage, catnip, alsike clover, or other artificial pasturage for bees—north, south, east, and west—setting forth the kind of soil they seem to do best in; date of first bloom and length of blooming period; if bees gather honey from them; color of honey; if the seed is saved, &c., &c. Please sit down at once and let us hear from you.

Swindling Operations.

FRIEND NEWMAN—I would like to ask if you know anything of such a firm in your city as J. K. McAllister & Co. They have swindled me out of a barrel of honey, and I think every person having honey for sale should be warned against shipping to them. I sold them the honey at 11 cents per lb. delivered in Chicago, in the months of Feb. or March, and have never received one cent for it yet. They put off paying for it, saying it was not pure honey; but that they would have it analyzed and if it proved to be pure, would pay me for it, and stated that it would be analyzed by the 15th of May. Nearly three months have passed since the day set for it to be analyzed and I am minus my pay yet.

Please publish the following letter from them which will be a good advertisement for their house.

CHICAGO, June 12, 1876.

J. F. Montgomery, Lincoln, Lincoln Co., Tenn.—Your postal card of the 7th inst. to hand. We will say, if you do (or have done) as you say, we will fight the payment of your claims to the bitter end. We stated that you would be paid for your honey if it were shown to be pure on analysis or could be sold for pure honey. When your last postal came to hand we answered saying that no report had been given, we would in all probability know by the 15th or thereabouts, and when a report was given we would remit. Now if you think to choke it out, all we have to say is try it on. Our reputation is worth more than a barrel of Tennesee honey, and your course is not the best to pursue, if you calculate to get your pay. A lawyer of this place who had some of it, says it is not pure, and if we do not wish to pay for it he will defend us in a suit, without one dollar of expense. This, however, is not our desire, but if you force us to it, with yourself rests the blame. J. K. MCALLISTER & CO.

The letter speaks for itself.

Your readers will be surprised to hear that the Common Sense bee hive man—Gillespie—has actually brought suit against me for using two-story bee hives, and for publishing an article in our county paper warning bee-keepers not to pay him for using two-story hives. He claims that I have damaged him $10,000, for which amount he has sued me in the U. S. Court. His claim which is as follows is certainly absurb:

Claim 1.—The angular metallic strips A and pins B in combination with the frames I, substantially as set forth.

2.—The combination of the rabbeted sections and parts A, B, C, D, frames I, pins B and angular plates A; all as set forth.

He has also filed a bill enjoining me to make no more two-story hives. The trial will come off at Nashville, the latter part of October. His patent is dated Jan. 11, 1870. If he succeeds in showing that it covers all two-story hives I will have to invalidate it by proving previous use. And I would like for all your readers who have used two-story hives previous to 1870 to write to me stating how long they have been using them, so that I may have their depositions taken. My hive is a simple two-story Langstroth, with frames running the short way instead of lengthwise. All information will be thankfully received.

I am making the fight for every bee-keeper in the U. S. using two-story hives, and I think I am entitled to all the assistance I can get. J. F. MONTGOMERY.

Lincoln, Lincoln Co., Tenn.

J. K. McAllister & Co. sent to this office an advertisement for consignments of honey some 18 months since, As they furnished no satisfactory references it was refused!

At Mr. Montgomery's request, last April, the publisher of the A. B. J. went to McAllister's to examine the weight and quality of this shipment of honey. As much of it had been disposed of, there was no chance to see the weight, and a small bottle of inferior honey was exhibited as a sample of it—McAllister's bare assertion, however, being the only proof that it was a part of the Montgomery honey. These facts were reported to Mr. Montgomery at once, with the advice to get all he could, and "settle" the claim, as it could not be considered first-class in any respect.

As to the matter of two-story hives, Mr. Montgomery ought to get down on his knees and thank Mr. Gillespie for his long forbearance in allowing him so many years undisturbed use of his invention. Just think of the patience of the man! All over the country men have been defrauding him in sums of $10,000 each, and yet not one of them has ever paid him a cent for the privilege of putting one hive on top of another. It would be difficult to find a bee-keeper who has not infringed on Mr. Gillespie's patent. Years and years ago the thing was done and continues to this day, without even asking permission of Mr. Gillespie! But it is time the thing was stopped, and we hereby notify each of our readers to send immediately the little matter of $10,000 to Mr. Gillespie, or nevermore put a second story on a hive. Those who do not now keep bees, but whose fathers did, must add interest to the $10,000 for the use their fathers made of the invention before Gillespie was born. Think not to evade it by saying that the second story is not the same size or shape as the lower story. The upper story may be shorter or longer, it may be ten inches high, it may be five inches high, it may be only five inches high and the same in width and length, and the attempt made be made to evade payment by calling it a surplus box or super, still in any and all cases it is a second story and the $10,000 must be paid. In consideration of our thus pleading the rights of Mr. Gillespie, we hope he will be as lenient as possible in assessing the penalty for using two story hives in our own apiary.

We are glad to learn that there is a lively demand for Prof. Cook's Manual of Bee-Keeping. Thirty cents cannot be spent to better advantage by any of our readers who have no work of the kind.

An Extractor to be Given Away.

Mr. A. G. Hill has sent us one of his Gas-Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before November 1, 1876. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

We will add the following:

For the second largest list, we will give a tested Italian queen in May, 1877.

For the third largest list, we will give a copy of THE AMERICAN BEE JOURNAL for 1877, post-paid.

For the fourth largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 246 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once.*

Give Plenty of Room and Honey.

In most localities the season has been one which has yielded an unusual harvest of honey, and many hives which have been left to take care of themselves will be in bad condition for winter by reason of their plentiful stores. Especially where the flow of honey has continued up to the first of September, no time should be lost in examining every hive to see that room enough is left for the occupancy of brood. If every frame is filled with honey, except a shallow depth at the bottom of part of them, the colony will scarcely survive the winter. If any colonies need to be fed no better use can be made of some of the frames of honey in the over-full colonies than to give them to those which have not sufficient stores for winter, returning empty combs in place of the full ones. If this cannot be done then extract the honey from one or more of the combs and have plenty of empty worker cells in the middle of the brood nest. Do not, however, go to the other extreme, and extract most of their honey, thinking there will be time enough for them to fill up, and if not they can be fed. There is nothing lost by leaving a liberal allowance of honey, and at this season of the year there should be at all times enough honey left in the hives so that if a sharp frost comes and suddenly cuts off the harvest, there will be no necessity to feed for winter. If the yield should continue so as to fill up the hives again, it will be easy to extract again. We are aware that this advice will be lost upon some of the very ones who need it. Having little experience and thinking because honey is still being gathered there is no need yet to think about winter, they will be so anxious for a larger yield of honey that they will plan to leave just as little as possible in the hives, and perhaps feed too late, or have colonies so weak in stores in the spring that they will build up very slowly. We do not pretend to have fully solved the problem of wintering and springing bees, but are strongly of the opinion that one important factor in the problem is to have plenty of stores and at the same time have plenty of room for the queen to lay. If more honey is left in the hive than will be used in wintering it will not be wasted, and in the spring the bees will increase their numbers more rapidly if they feel that they have plenty. Better extract the overplus at the beginning of the harvest than to try to leave just as little as will carry the bees through.

Novice inquires, in August number of *Gleanings*, if the AMERICAN BEE JOURNAL or any one else knew that McAllister & Co., of Chicago, were of the fraudulent sort why they did not say so? Now look here, Novice, you may wish you hadn't put that chip on your shoulder. THE AMERICAN BEE JOURNAL tries to be a little careful not to speak too hastily on subjects of which it is not fully informed. Some eighteen months ago the advertisement of J. K. McAllister & Co. was refused by the publisher of the AMERICAN BEE JOURNAL because he was not furnished with satisfactory references, but this lack of information did not warrant publishing the firm as a fraud. Has there been more than one case of unfair dealing reported of them?

Not long ago we ordered a small package of comb foundation, and after putting it into the hives it stretched down in such a way that each particular cell seemed to be making faces at us. Should we not immediately have warned the public that the party was a fraud, sending out what was worse than worthless? Had we done so hastily, we might have regretted it, for very shortly afterward he gave notice that he had discovered that the material did not work right, and he stood ready to make good all damages. So it is best to go slow and sure in such matters.

The firm of King & Slocum, publishers of the *Bee-Keepers' Magazine*, of New York, has been dissolved. Mr. Slocum retiring and Mr. Turner taking his place, under the firm name of A. J. King & Co. The new firm has our best wishes for success.

Comb Building.

Huber thus describes the process of comb building. He speaks of two kinds of workers—"wax-makers" and "nurses." This is an error. There is but one kind of bees. Young bees are the "nurses" and "comb builders," while the older bees gather the honey. He says:

The wax makers, having taken a due portion of honey or sugar, from either of which wax can be elaborated, suspend themselves to each other, the claws of the fore-legs of the lowermost being attached to those of the hind pair of the uppermost, and form themselves into a cluster, the exterior layer of which looks like a kind of curtain. This cluster consists of a series of festoons or garlands, which cross each other in all directions, and in which most of the bees turn their back upon the observer; the curtain has no other motion than what it receives from the interior layers, the fluctuations of which are communicated to it. All this time the nurse bees preserve their wonted activity and pursue their usual employments. The wax makers remain immovable for about 24 hours, during which period the formation of wax takes place; and thin laminæ of this material may be generally perceived under their abdomen. One of these bees is now seen to detatch itself from one of the central garlands of the cluster, to make a way amongst its companions to the middle of the vault or top of the hive, and by turning itself round to form a kind of void, in which it can move itself freely. It then suspends itself to the centre of the space which it has cleared, the diameter of which is about an inch; it next seizes one of the lamina of wax with a pincer formed by the posterior metatarsus and tibia, and drawing it from beneath the abdominal segment, one of the anterior legs takes it with its claws and carries it to the mouth. This leg holds the lamina with its claws vertically, the tongue rolled up serving for a support, and by elevating or depressing it at will, causes the whole of its circumference to be exposed to the action of the mandibles, so that the margin is soon gnawed into pieces, which drop as they are detatched into the double cavity, bordered with hairs, of the mandibles. These fragments, pressed by others newly separated, fall on one side of the mouth and issue from it in the form of a very narrow riband.

They are then presented to the tongue, which impregnates them with a frothy liquor like a bouilli. During this operation the tongue assumes all sorts of forms: sometimes it is flattened like a spatula, then like a trowel, which applies itself to the riband of wax; at other times it resembles a pencil terminating in a point. After having moistened the whole of the riband, the tongue pushes it so as to make it re-enter the mandibles, but in an opposite direction, where it is worked up anew. The liquor mixed with the wax communicates to it a whiteness and opacity which it had not before; and the object of this mixture of bouilli, which did not escape the observation of Reaumur, is, doubtless, to give it that ductility and tenacity which it possesses in its perfect state.

The foundress bee, the name which this first beginner of a comb deserves, next applies these prepared parcels of wax against the vault of the hive, disposing them with the point of her mandibles in the direction which she wishes them to take; and she continues these manœuvres until she has employed the whole lamina that she had separated from her body when she takes a second proceeding in the same manner. She gives herself no care to compress the molecules of wax which she has heaped together; she is satisfied if they adhere to each other. At length she leaves her work and is lost in the crowd of her companions. Another succeeds and resumes the employment; then a third; all follow the same plan of placing their little masses; and if any, by chance, gives them a contrary direction, another coming removes them to their proper place. The result of all these operations is a mass or little wall of wax, with uneven surfaces, five or six lines long, two lines high, and half a line thick, which descends perpendicularly below the vault of the hive. In this first work is no angle nor any trace of the figure of the cells. It is a simple partition in a right line without any inflection.

The wax makers having thus laid a foundation of a comb, are succeeded by the nurse bees, which are alone competent to model and perfect the work.

The former are the laborers, who convey the stone and mortar; the latter, the masons, who work them up into the form which the intended structure requires. One of the nurse bees now places itself horizontally on the vault of the hive, its head corresponding to the centre of the mass or wall which the wax makers have left, and which is to form the partition of the comb into two opposite assemblages of cells; and, with its mandibles rapidly moving its head, it moulds in that side of the wall, a cavity which is to form the base of one of the cells to the diameter of which it is equal. When it has worked some minutes it departs, and another takes it place, deepening the cavity, heightening its lateral margins by heaping up the wax to right and left by means of its teeth and forefeet, and giving them a more upright form; more than twenty bees successively employ themselves in this work. When arrived at a certain point, other bees begin on the yet untouched and opposite side of the mass, and, commencing the bottom of two cells, are in turn relieved by others. While still engaged in this labor, the wax makers return, and add to the mass, augmenting its extent in every way, the nurse bees again continuing their operations. After having worked the bottom of the cells of the first row into their proper forms, they polish them, and give them their finish, while others begin the outline of a new series.

The cells themselves, or prisms, which result from the reunion and meeting of the sides, are next constructed. These are engrafted on the borders of the cavities hollowed in the mass; the bees begin them by making the contour of the bottoms, which at first is unequal, of equal height; thus all the margins of the cells offer an uniformly level surface from their first origin, and until they have acquired their proper length. The sides are heightened in an order analogous to that which the insects follow in finishing the bottoms of the cells; and the length of these tubes is so perfectly proportioned that there is no observable inequality

between them. It is to be remarked that though the general form of the cells is hexagonal, that of those first begun is pentagonal, the side next the top of the hive, and by which the comb is attached, being much broader than the rest, whence the comb is more strongly united to the hive, than if these cells were of the ordinary shape. It, of course, follows that the base of these cells, instead of being formed like those of the hexagonal cells, of three rhomboids, consist of one rhomboid and two trapeziums.

The form of a new comb is lenticular, its thickness always diminishing towards the edges. This gradation is constantly observable, whilst it keeps enlarging in circumference; but as soon as the bees get sufficient space to lengthen it, it begins to lose this form and to assume parallel surfaces; it has then received the shape which it will always preserve.

The bees appear to give the proper forms to the bottoms of the cells, by means of their antennæ, which extraordinary organs they seem to employ as directors, by which their other instruments are instructed to execute a very complete work. They do not remove a single particle of wax until the antennæ have explored the surface that is to be sculptured. By the use of these organs, which are so flexible and so readily applied to all parts, however delicate, that they can perform the functions of compasses in measuring very minute objects, they can work in the dark, and raise these wonderful combs, the first production of insects.

Every part of the work appears a natural consequence of that which precedes it, so that chance has no share in the admirable results witnessed. The bees cannot depart from their prescribed route, except in consequence of particular circumstances, which alter the basis of their labor. The original mass of wax is never augmented, but by an uniform quantity; and what is most astonishing, this augmentation is made by the wax makers, who are the depositories of the primary matter, and possess not the art of sculpturing the cells.

The bees never begin two masses for combs at the same time; but scarcely are some rows of cells constructed in the first, when two other masses, one of each side of it, are established at equal distances from it, and parallel to it, and then again two more exterior to these. The combs are always enlarged and lengthened in a progression, proportioned to the priority of their origin, the middle comb being constantly advanced beyond the two adjoining ones by some rows of cells, and they beyond those that are exterior to them. Was it permitted to these insects to lay the foundation of all their combs at the same time, they could not be placed conveniently or parallel to each other. So with respect to the cells, the first cavity determines the place of all that succeed it.

A large number of bees work at the same time on the same comb; but they are not moved to it by a simultaneous, but by a successive impulse. A single bee begins every partial operation, and many others in succession add their efforts to hers, each appearing to act individually in a direction impressed either by the workers who have preceded it, or by the condition in which it finds the work. The whole population of wax workers is in a state of the most complete inaction, till one bee goes forth to lay the foundations of the first comb. Immediately others second her intentions, adding to the height and length of the mass; and when they cease to act, a bee, if the term may be used, of another profession, one of the nurse bees, goes to form the draft of the first cell in which she is succeeded by others.

"So work the honey bees,
Creatures that by a rule in Nature, teach
The art of order to a peopled kingdom."
—SHAKESPEARE.

From the English Manual of Bee-Keeping.

Effects of Stings.

Mr. G. Walker, of Wimbledon, has recorded an experiment he made on himself to try how long, and how many stings, it would require to get inoculated. He gives the following as the *modus operandi* and result, viz:—

I went to one of my hives, caught a bee, placed it on my wrist, and allowed it to sting me, taking care that I received the largest amount of poison by preventing it from going away at once; then I let the poison-bag work, which it does for some time after being separated from the bee. The first day I only stung myself twice. A bee sting has always had a very bad and injurious effect on me, inasmuch as it has always caused a great amount of swelling and pain; in fact, once when stung on my ear, the part became so painful and swollen that I hardly got any sleep the following night, and it was three days before I recovered. The first few stings I got during this experiment had the usual effect; the whole of my fore-arm was affected with a cutaneous erysipelas, and there was disorder of the muscular nerves, accompanied with heat, redness, swelling and pain. This attack lasted till Tuesday, and on Wednesday (October 7th) I was so far recovered that, following the same plan, I stung myself three times more also on the wrist. The attack of erysipelas this time was not nearly so severe; but, as before, I felt a stinging sensation as far up as my shoulder, and I noticed that a lymphatic gland behind my ear had increased considerably in size, the poison being taken up by the lymphatic system. On Saturday (October 10th) I again treated myself to three stings, and the pain was considerably less, though the swelling was still extensive. At the end of the next week (October 17th) I had had eighteen stings; then I stung myself seven times more during the next week, and I reached the number of thirty-two on October 31st; the course of the experiment having lasted nearly four weeks. After the twentieth sting there was very little swelling or pain, only a slight itching sensation, with a small amount of inflamation in the immediate neighborhood of the part stung, which did not spread further; and I stung myself on November 8th, without its having any effect on me.

SEND NAMES.—Our friends will greatly oblige us by sending the names of such of their neighbors as keep bees and do not take THE AMERICAN BEE JOURNAL, and we will send them a sample copy.

Biographical.

The late Adam Grimm.

Adam Grimm was born in Germany, in the year 1824. His father kept a few hives of bees in which Adam took deep interest, and did not rest satisfied till he himself became the owner of a few colonies.

He emigrated to this country in 1849, settling at Jefferson, Wis., on a farm where he remained until the time of his death, which occurred April 10, 1876. Soon after settling at Jefferson he obtained a few colonies of bees and was so successful with them, that at a time when all other crops failed, his bees came to the rescue and helped him over the most critical time of his life.

In 1863 he had increased his apiary to 60 stocks of black bees in all sorts of box hives, and in 1864 he commenced to use frame hives and transferred all his bees into them. In the same year—1864—he bought his first Italians and as rapidly as possible Italianized his apiary, and then sold large numbers of Italian queens all over the country.

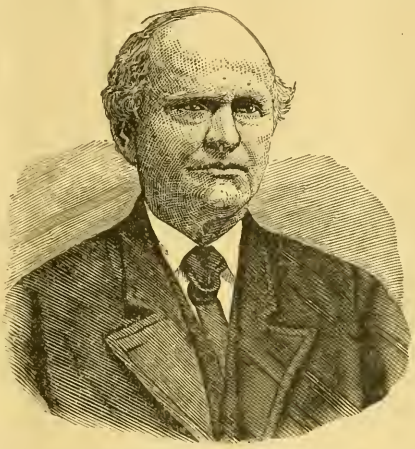
About 1869 or 1870 he imported, personally, 100 Italian queens, 60 of which were alive on their arrival at New York. Of this number he introduced 40 in his own apiaries. He increased his stock regardless of cost, every year, but had larger returns especially in late years both from the sale of honey and bees. Queen rearing he thought unprofitable.

He had an intense enthusiasm in the business and worked so hard in the apiary as probably to shorten his life. His success was the cause of many others engaging in the business.

He established a bank at Jefferson, of which he was cashier, (his bees having provided the capital) but during the honey harvest he left the bank to the care of employees and went from one apiary to the other, personally supervising all that was done.

We shall not soon forget two or three pleasant visits which we made at his home with his interesting family. He told us that his wife remonstrated with him for working so hard, telling him that he now had a competence, and could give up his bees with the laborious care of so many, but he seemed to think the returns were large for the amount of labor, making the work still a pleasure, although no longer a necessity. He reached the number of 1,400 colonies, and on one of our visits when he had nearly 1,000 colonies, he said, with a half-comical expression, "What would I do if all should die in the winter?" And then the comical look giving way to one of German determination, he said, "I would buy some more, and with so many hives full of empty comb I would show you how soon I would fill them up again."

His daughters, Katie and Maggie, (since married) were his able and faithful assistants, and the son, George, since his father's death has assumed the principal care of the bees, for which he is well fitted by his previous training.



Truly Yours,

Adam Grimm

Correspondence.

For the American Bee Journal.

Queens' Friends and Foes.

I have practiced introducing queens by merely waiting till queen cells were started, and then placing the queen on the comb amongst the bees, without using any precautionary measures whatever, and have never failed when honey was yielding, but have often noticed that in front of such a hive shortly afterward, a number of dead bees would be found on the ground. For a long time it puzzled me to know what this meant, but I finally came to the conclusion that the bees had a battle amongst themselves, one party attacking the newly introduced queen, and the other party defending her, and that the dead bees in front of the hives were slain in such battles.

About the middle of last July in extracting the honey from a two-story hive, I found the queen in the upper story with brood scattered through both stories. In order to be sure to put the queen where I wanted her to be, after I was through overhauling both stories, I put her in a tumbler turned upside down over a sauce dish. After finishing my work with the hive, I placed the queen on top of the frames and she was immediately attacked. I took out the ball of bees which enclosed her, and as I did so a small cluster dropped off the main ball, and this small cluster remained clinched evidently battling one another. I then dropped the ball containing the queen in a tumbler of water, but instead of separating they remained in a firm ball. After they had become motionless from drowning, I took them out and easily separated the queen, which I placed on top of a hive cover in the shade, to dry off and revive. On the top of the frames where I had placed the queen I found two bees which had just been killed at the spot where the queen was. I then closed up the hive and looking at the tumbler and sauce dish which had contained the queen, I noticed that the dish was soiled by bees which had been previously in it, (for I had been using it all day to hold different queens) and undoubtedly the strange and unpleasant odor given to the queen, by being in the soiled dish was the cause of the bees attacking her. After the queen had revived, I daubed her with honey and placed her on the porch, where she was caressed by the bees which first met her, and very soon quite a crowd collected about her. Gradually the appearance of the bees assumed that doubtful aspect, in which you scarcely know whether they are foes or friends to the queen Very soon the queen was enveloped by a large mass of bees. She was a choice queen and I was very anxious for her safety, but it was growing late in the evening and I was to leave the next morning, so I decided to let the bees take their own course. I visited the hive the last thing before going to bed, but found no change in the situation. I put a quilt in front of the hive so that I might find the dead queen thereon if she was killed. I went to the hive the first thing in the morning and found the cluster shifted from the porch to the side of the hive, smaller in size and less compact. Whilst I was watching them, the queen emerged from the cluster, and quietly walked into the hive. On the quilt were the slain bodies of some thirty workers. On visiting them two weeks later I found the queen doing faithful duty, as if nothing had happened.

Very clearly here were two different parties; and I do not remember ever to have seen this matter mentioned by any one except Mr. Chas. Dadant. Can the knowledge be turned to any practical account?

B. Lunderer.

For the American Bee Journal.

Bees Stinging to Death.

While the Prussian army at Sadowa was fighting the Austrian forces, one of their batteries took position in a walled garden. In this garden, behind the guns, were a few stands of bees. The walls of the garden had been bored to make battlements, so that the gunners protected against the fire of the enemy could point their guns from behind the shelter of the high stone walls. Suddenly a bombshell fell in the garden, not far from the bees and bursting struck the hives. The bees became angry and rushed on the gunners and horses. Men and horses were literally covered with stinging bees. The guns were deserted and in spite of the haste of the retreat, several horses were killed, two men could not recover, and many others were several weeks before regaining their health.

The Franco-Prussian war had also a few episodes in which bees have played their part. At the battle of Beaumont, in the village of Warniforet, a farmer had about 60 bee hives. When the Prussians invaded the village, some soldiers, elated by their success, had the unhappy idea of feasting with honey. They had routed the proud French army, could a few small insects resist their attacks? With their sabres they loosened hastily the caps of most of the hives to rob their contents. The bees astonished at such an affront remained quiet a few instants, then rushing *en masse* they made a vigorous attack on their assailants. Four Prussian soldiers were killed instantly, four more did not recover, and several others remained for months in the ambulance before being able to resume service again.

Dr. Schweinfurt, in relation of his expedition across Central Africa, narrates that, while he was ascending Bahr-el-Abiad—one of the forks of the upper Nile—the wind being contrary his boat could not use its sails. Some men were sent on shore to tow it with a rope. This rope while dragged on the ground hit and disturbed a bee hive. The revenge of these insects was not long delayed. A full swarm fell on the towers, who hastened to jump into the river to repair to the boat by swimming. The bees followed them to the boat and in their fury attacked all the crew, even the botanist who was in his cabin quietly occupied in fixing plants in his herbarium. There was a general rush out. The Doctor himself jumped into the river to escape the fury of the insects. Little by little the bees returned to their hive and quietness was restored. When the battle was over it was found that two men had been stung to death, and there were as many wounded as

were men on board. Schweinfurt adds that all the flotilla which was following him numbering 16 boats were equally assailed by these revengeful insects.

Egyptian bees are far worse than the races of bees known here and worse than the bad hybrids. Nothing can quiet them when their anger has been aroused. The writer of this article has seen two Egyptian colonies in the apiary of Count Barbo, in Italy. For weeks after their hives had been opened for some operation nobody could go within 15 yards of their hives without being stung.

Every bee-keeper should remember that when a person has received many stings the first thing to do is to remove the stings by slipping the edge of a knife on the skin. Pinching the sting with the fingers would empty the venom bag into the wound. The best way to prevent evil consequences is to envelop entirely the patient in a thick wet cloth and to cover him with blankets in order to stimulate the perspiratory organs. A tablespoonful of common salt should be dissolved in the water to be used, then two or three spoonsfuls of ammonia should be added and mixed. Care should be taken that the patient breathe not too freely the vapors of ammonia. To drink one or two drops of ammonia in a glass of water or tea would greatly prevent the swelling from spreading on the parts of the body that have not been stung. CH. DADANT.

For the American Bee Journal.

Growlers.

Who are growlers? Answer: those who speak against any popular opinion. To speak the opinions of the majority is patriotic. To speak those of the minority is growling. Every grand truth through all the past ages has been held up by the shoulders of the few. Error sweeps over the land like a mighty flame fanned by a thousand breaths. We very much dislike to see in our journals, personalities or quarrels between man and man, but those between mind and principles, plans, etc., are the guide-boards to success.

If to battle, kill, and throw overboard petted plans is growling, A. I. Root is the boss growler. In "Our own Apiary," for August, "do you find boxes are among the things that were?" No, this was written a few years ago. Novice, do you mean to say that bees will go way up through all these stories of comb and work on top? That's heresy; modern bee-culture says: "pull off and throw away those honey-boards and set your boxes right down on the frames." Why I thought the house apiary was particularly designed for the extractor. I thought the house apiary for comb honey was growled out in a back number We growled out what you now say in regard to one and two-story hives, over one year ago at our State convention. Novice, don't you undertake to steal any of our ancient thunder, such as watching our colonies close, and see that they always have room during the honey months. What do you suppose keeps us, simplicity, old-style bee-keepers busy from 12 to 15 hours per day? Why may I not as well growl against comb foundations now, as for you to growl against stimulative and all kinds of liquid feeding? Is it a crime to find out the error of a system a little in advance? Is that what some of our apiarian brothers, who hate a ripple but seem to love the silent stagnant pool, call growling?

"Let anarchy's broad thunder roll,
And tumult do its worst to thrill,
There is a silence, to the soul
More awful and more startling still."

And here it is, for it tells nothing.

"My beautiful yellow pets have made some surplus (which we all like to eat), and have increased from 5 to 80 colonies. We have not spent much time nor money with them, and, though this is our first year, we know we can make 500 lbs. out of the dear little creatures. Any one who says we can't, is a growler, and very disagreeable. Long may you wave Mr. Editor.

EPHRIHAM DO-EASY."

"Light draughts intoxicate the brain,
While drinking largely sobers us again."

Time is a quaint old gent, and carries a sharp reaper and mower, (old style) but that he will never sever the goodwill between all brother bee-keepers is the earnest wish of your subscriber. Let us seek the naked truth wherever she may be secreted.

If the black bee has good qualities, let us hear of them occasionally. If it be a fact that movable frames have objections, let us point them out. I am carefully testing 8 lbs. of white and yellow foundation from each of Messrs. Perrine and Root, and am sorry to say, up to this date, they seem to be hunting a seat among the impracticables thrown overboard. Will report in full by and by, and wish to hear from others.

JAMES HEDDON.

Dowagiac, Mich., Aug. 4, 1876.

For the American Bee Journal.

Controlling Swarming.

On page 181 "A Beeasticus" says, "Now, this talk about controlling the swarming propensity of bees is all a humbug from beginning to end. If the season is propitious and your bees come out strong and healthy in the spring, they will swarm more or less, and there is no effectual way of preventing it." Now friend B., I say there *is* a way and we do it every time. When the swarming time came our bees were very strong, hives chock full of brood and bees. We use a frame 11½x13¾, 12 to 16 frames to the hive, and have never had a swarm come off since we left the box hives 5 years ago. All around us the swarms have been coming off thick and fast, one man from 10 has run up to 38 at last accounts, and has sold some. Others have had swarms but not in so large a proportion. You may say it's my large hive that does it. No sir, for a friend has 10 of them, wintered the same, etc., and they have swarmed 4 times. I take care of them for him but could not get time enough to keep them from swarming. All I do is to work with them whenever he calls, if I have time. How do I keep them from swarming? Simply by pinching off the queen cells, not only the large ones, but everything even down to the little cups just started, once in every 5 or 6 days, sometimes let them go a week or ten days. We now have 13 strong stocks and three that will be as strong as any in a short time.

We have had a great deal of rain this season and in consequence bees have done

finely, hives full of honey, besides what we have taken out. White clover covers the ground all around us, and with small patches of catnip and one little patch of rape, gives the bees plenty to do, though just now it is too cool for them to do much.

"Beeasticus": I am sorry you do not give your right name, for I think an article tenfold more interesting if we can know who the writer is.

Friend Heddon: I agree with you as regards this trying to get every man, woman, and child to keep bees. Why in the world don't you keep bees? Such big profits we make. Well, let us make them and keep it to ourselves, or only tell it to those who are already in the business and take the journals, and let the others alone.

WM. M. KELLOGG.

Oneida, Ill., July 24, 1876.

[The matter of controlling swarming is a very interesting one, especially for those who wish to obtain honey in the comb. Do you work for comb-honey or extracted, friend Kellogg? We think it would be much easier to keep down the swarming impulse if the extractor is freely used. The important problem with some is to keep the bees from swarming while working in boxes. Many cases are reported of Italians swarming without starting any queen cells. Is a wet season best for honey? If we remember rightly, Quinby says the best season is when a drought is threatened.—ED.]

For the American Bee Journal.

Italian vs. Black Bees.

This is my third year's experience in beekeeping at this place. I commenced with 8 stocks of Italian bees. I bought 50 stocks of black bees from different parties, Italianized about one half the first season. I put on boxes during buckwheat and to my surprise the black bees were the first to commence in the boxes and gave by far the best yield though the Italians were the strongest. The next season I put on the boxes early and gave the Italians every advantage but the blacks were the first to commence and kept ahead all the season.

This season I commenced with 65 stocks, about one half Italians and hybrids. Commenced boxing during fruit bloom, but the weather was cold and windy; none commenced in boxes until white clover, June 5. The clover season ended July 5, it was the best I ever knew, while it lasted. My best stock of black bees put up 150 lbs. of white honey in 4 lb boxes, while the best Italians put up 120 lbs. Several stocks of blacks went from 100 lbs. to 140 lbs., only one Italian reached 100 lbs.; yet the stocks were all strong and in good condition in the spring. After this experience I am forced to the conclusion that as box workers the black bees are the best. Where the extractor is used the Italians are all that is claimed for them. I only use the extractor as a necessity. Box honey is my hobby. Bees have just commenced on buckwheat, the prospect is good for a fine crop.

JOHN VANDERVORT.

Wyoming Co., Pa., Aug. 15, 1876.

For the American Bee Journal.

My Bees.

I went out July 28 and found three more natural swarms had been added. Many of the hives were so crammed with honey that the queen had very little room for eggs. On my previous visit I had run out of frames, and had left some of the new swarms with hives only half filled with frames as they were so weak that I thought they would need no more for a couple of weeks, but in this I was mistaken, and in some of them combs were built from the quilt. My object was to take just as little from the bees as possible, for I was more anxious to leave them strong than to get honey. I had ordered some hive material from Oatman & Sons with some misgivings as to whether it would be just exactly right, but I could not have asked for greater exactness, so I filled all up with frames where needed, extracted some of the combs. took others from the strong and gave to the weak, and started 11 more new colonies which made the total number 84. Where I took full frames from a hive I gave in their place in most cases frames of foundation.

I find it works best not to have the foundation come very near the bottom bar. It might do in tolerably cool weather or in a weak colony but in a strong colony the bees will commence work on the whole surface of the foundation, and the weight of so many bees when the weather is hot enough to soften the wax, makes it stretch and double over on the bottom bar. Perhaps a depth of 6 inches gives the most satisfactory results, but in that case the bees will add some drone comb in some of the frames. About a quarter of an inch space at the side seems to work well. I would suggest to those who have many frames to fill with foundation, to have the melted wax, or wax and rosin, in something like a kerosene can, so that the constant dipping of the tea spoon may be avoided, and the little spout of the can may be easily directed where the melted material shall trickle along the edge of the foundation. It is quite important that the edge which is cemented to the frame shall be cut perfectly true to make quick and easy work. If the foundation is to be used for brood comb rosin and wax may be used for cement; but if for comb honey, wax alone must be used or care be taken, in cutting out, that none of the cement be on the comb. B. LUNDERER.

For the American Bee Journal.

Can Bees Hear?

MR. EDITOR:—My manipulations with bees for this season are nearly over; and as I promised to experiment further in answer to the above question, I will now, with your permission, give the result of my experiments:

Sound is transmitted by wave-motion through the air; the intenser the sound, the more powerful the wave, so that by their increased force objects with which they come in contract are brought into a tremor, and are even broken by their force.

Sound always produces a tremor or jar. The finer the structure of the organ for the reception of sound the slighter the sound may be to be detected by that organ. No

living creature is absolutely deaf or without the power to detect sound. Some may have no special organ for hearing, yet they feel the effects of sound if sufficiently powerful to jar them.

Entomologists give the bee no organ of sound—at least not to my knowledge—and some treatises do not even theorize whether they can or cannot hear. Whether the fact that they can hear or not will ever, as far as utility is concerned, effect the success of the apiarist remains to be learned. If a little theorizing be in order, I would say that I believe if they can hear we will, after learning the effect a peculiar sound has upon them, be enabled to control many of their movements, among which swarming will be the most prominent; the discarding by intelligent bee-keepers of tin pans, bells, etc., to the contrary notwithstanding.

I regret to say as regards the investigation of this subject, that I have had no experience this season with absconding swarms, but such other experiments tried and observations made I will now briefly give. In making nuclei I found, after shaking bees into it and after they had struck up a quick march around the hive and were making the air vocal with the music, by holding a card with adhering bees, taken from the hive I was dividing, directly over them, the bees on the card, though quiet before, would soon "come in on the chorus" and make their way for the line of march. I also found by going up quietly behind a hive after dark and clapping my hands several times near the hive and out of their sight—supposing they can see after dark—it had the effect of checking the hum produced by ventilating the hive, and for a couple of minutes all was quiet, and the sentinels at the entrance were reconnoitering to learn the cause of the disturbance, when the hum was again resumed. This I tried carefully and am positive as to the result. I also tried the experiment W. W. Lynch suggested, but am not satisfied with the result.

All experiments and observations that give the bees an opportunity of coming in contact with each other cannot be satisfactory evidence that they can hear. My experiments were made to avoid this.

J. D. KRUSCHKE.

Beeton, Ont., Aug. 8, 1876.

For the American Bee Journal.

Answer to Mr. McNeil.

In the August number of the AMERICAN BEE JOURNAL, Mr. J. W. McNeil says that he thinks that some of his queens are not pure, because some of their workers in a few hives are black behind the yellow rings, their abdomen being deprived of hairs, while in some other hives all the bees seem to be young. Mr. McNeil wants from me and others some explanations on this fact.

As far as my knowledge of the purity of the bees goes, I cannot think these bees impure, especially if they are quiet on the combs when the frames are out of the hives and if the workers show more or less distinctly the three yellow rings. If some workers in a few hives have their abdomen shining black I am inclined to think that it is because these workers are accustomed to rob other hives. I have at several times remarked that robbers are soon deprived of hairs, either because the hairs have been glued by honey or pulled by the bees of the robbed colonies. Everybody knows that some colonies are more inclined to rob than others. Of course some bees in these robbing colonies will look older than in those which have not such robbing propensities. We have had such in our home apiary. I could more exactly say we have every year some colonies which have accustomed to look on the spoils of others as a means of becoming rich.

A few years ago we had a hive, it was number 18, which was a confirmed robber; as soon as some mischief was done, it was by the bees of this colony, and of no other. One of our neighbors came one afternoon saying that our Italians were robbing one of his black hives. It was late in the season, all our colonies seemed quiet. I pointed to him the hive No. 18. "If your bees are robbed by ours it is by this hive." Indeed, this colony was as busy as in a day of full harvest. I closed the entrance and sent my son to stop the robbing. He found that there was neither brood nor queen in the robbed hive and only a few hundred black workers left. He saved the honey, but to convince our neighbor that our Italians had not killed his black bees was not easy; yet as there were no dead bees in the hive and only very few in front of the hive, my son succeeded at last in proving that our bees had robbed the hive when there were not enough bees to defend their stores.

This colony with robbing propensities was always very strong, but it was an annoyance for us and we had to be very careful in order to break up its robbing habits, and we worked to this end for many months; its young bees being taught by the old bees how to rob, it was necessary to have an entire generation passed to obtain this desirable result. So after having given them very little opportunity of finding sweets outside of the nectariums of flowers their robbing propensities disappeared entirely during the honey season of the ensuing year. We have always since remarked that if robbing takes place it is always done by the same colonies, To find these colonies is easy when the robbing is prolonged till night; the robbing colonies working when all the others are quiet.

To my mind it is probable that the colonies where some of these bald bees exist are accustomed to rob. Can some other bee-keeper give any other and better explanation? CH. DADANT.

An Essay on Bees.

READ BEFORE THE GRANGE, WATERTOWN, N. Y., JAN. 28, 1876.

The honey bee from time immemorial has attracted the attention and care of civilized mankind. The scriptural allusions to them are in connection with the highest kind of living. The expressions, "with honey out of the rock, will I satisfy you?" and, "butter and honey shalt thou eat, thou that sin not;" with many others give an idea of the value the ancients set upon it as an article of food. And when the psalmist says, "eat thou honey for it is good," the most of us will, I think, quite readily agree with him. No farmer's home seems to me complete,

without a few hives of bees. The pleasure of seeing them toil, and in caring for them, (to say nothing of their influence) is with many people far greater than in the care and observation of the habits of any of the animals that are attached to the farmer's house. Yet the knowledge concerning the bee, and its care, is far less general than it should be. A family of bees consists of the queen, who is capable of laying from 2,000 to 3,000 eggs per day, many times her bulk; the workers which are neither male nor female; and the drones, which are male bees. When the family becomes too large the workers take a common worker egg and place it in a queen cell, or enlarge three worker cells into one, and when the egg is developed into a grub, they feed it a different kind of food, and the result is a queen. What that food is I believe is not known. When there is more than one queen, which an experienced ear can detect by the piping sound they give, the bees do not appear to do much else than keep the queens apart, as they will destroy one another, and if there chances to come two or three rainy days in succession, they will destroy one; and when the weather becomes fair raise another.

The old queen goes with the first swarm of the season, and lives a number of years, as I know from one that I had which was disabled. The workers during the busy season do not live on an average of over two months, as once I tested by taking a queen from a black swarm, that had been hived ten days, and introducing an Italian queen. In ten days the young Italians began to show themselves, and in four weeks there was not a black bee left. Their method of calling each other, with the power to lead where they can get honey, or have found a new home, with many other interesting things, must be omitted for want of time. I have never failed to secure a fair crop of surplus honey, by following these simple rules: The hive should contain about 1,800 square inches; if larger, saw through comb and all, some cold day, to make smaller.

If the swarms are strong raise them from the stool in winter not less than a half inch on the side, least exposed to the wind, as it will prevent their freezing to death. The cause of their freezing is, their breath condensing, making the poor things look as if they had come out of water, which is really the truth. Plenty of air will always prevent it. Weak swarms, or those with little honey, should be turned upside down in a cellar. Never use an old hive for a new swarm, without first taking off the top board and planing it; also the inside. If a swarm has not enough of honey to winter through with, feed with good sugar, of which take two pails to one of boiling water; when cool put some empty comb on the top of the hive, covering it with a top box, after putting the liquid on, and opening a hole for the bees to get to it. If bees rob, close the aperture of the hive being robbed, so as to admit of but one bee at a time. The boxes for surplus honey, should be made with four sides of glass; being very easily made, and makes a neat package. Put in the boxes pieces of comb about two inches square; the bees will then have something to start from, and you will have as many combs as you put pieces. Put on the boxes in the spring as soon as they begin to carry honey, if you would secure much from the old swarms, and on the new swarms about three days after they are hived. Boxes that have been on a hive once must be taken apart and thoroughly cleaned before using, or they will not work in them.* The comb is secured to the boxes by melting a little beeswax and dipping the comb in it. To remove surplus boxes I have found nothing so good as two pieces of heavy sheet iron, 3 in. wide and 7 in. long; ½ in. of one end turned at right angles with the left; run both under the box, leave one on the hive the other draw off with the box; and not a bee can escape from either. Plug the holes with twisted grass, as it is next to impossible to get anything else out after they have waxed it over.†

Put the box with honey and bees in a dark place letting in just a little light which will enable them to find their way out, and not back which they will try to do. Do not examine them often when they are storing honey, or they will stop. The box covering the honey boxes should be well made, and fitting the hive tight enough to exclude light; but be sure to have them well shaded in hot weather, or you will fail to get much else but swarms, of which there will be plenty. There should be at least two thicknesses of boards over the surplus boxes. In the treatment of them most people have to be protected, so that they can harm and handle them without nervousness and fear, which always makes them worse, or let them severely alone; like many sinful sweets they carry a sting behind; and most of us, as our worthy secretary remarked last week, "have a world of respect for a bee's business end," which end he referred to, I do not know; perhaps both, as both are busy ends occasionally. With a yard and a half of mosquito netting thrown over the head, and the sides buttoned under a thin coat,‡ and a pair of harvest gloves on, they will not attempt any business transactions with you, for they know they cannot. MARVIN SNELL.

[* Unless some filth has accumulated in the boxes, we doubt the necessity of cleaning them, and if the bees have before used them, some bits of comb being left in, they will be used more readily than new boxes.

† The holes may easily be closed by laying a block or bit of board on them.

‡ On a hot day we should rather be excused from being buttoned up in even a thin coat. All the protection needed is a light veil ready to be pulled down whenever the bees show anger, or for a timid person it may be kept down all the time. Gloves are much in the way, and bees will very rarely sting the hands, even when angry enough to sting the face.—ED.]

For the American Bee Journal.

Reply to Friend Roop.

There you go, friend Hiram, off the handle again. It was after I thought it strange that you should contract for 10c. (and I am informed you paid the freight clear to Cincinnati and threw in the packages) that I concluded to look the thing fair in the face,

and take 10c. per lb. for my extracted crop, right through, (not 21 barrels of the choicest) nett cash at my door. I did not know there was any asylum at Kalamazoo. Probably, because I never had any friends or relations in it. If your extracted honey only costs you 1c. per lb. and you get 10c. for it, you have a business and a conscience that will make a rich man of you. How do you know how much comb honey I can produce? If I should race it with you another season, how in the name of creation am I to know how much nectar you sling out? It may be you can beat yourself 10 to 1, but before you get too uneasy about a few barrels of nectar, try your hand at the yields of comb honey in fancy little boxes, realized by Doolittle, Hetherington and others. I can get far more than half as much comb as of extracted honey, with much less labor, and then get nearly three times the price per pound for it.

Now, if you don't stop such kind of talk, we will get up a surprise party and come up and see you, and perhaps locate in your vicinity, near the "swamps of Michigan," where the extracted honey slashes down by bucketsful. Hiram, toot your horn some more. JAMES HEDDON.

Dowagiac, Mich., July 31, 1876.

For the American Bee Journal.

Bees Making their Homes in Houses.

I did not know till recently that this was of frequent occurence in this part of the world. But my well known interest in bees makes people tell me now everything relating to them which they think in any way strange or interesting.

A stock of bees have been living in the Woodville bank for 7 or 8 years. I do not know anything of the position they occupy, but they must have had sufficient room as they have never been known to swarm till last year. The people who had charge of them took the honey from the swarm so late in the season that they did not have time to replace it, and starved in consequence. I think more bees are lost from this cause than from any other.

I visited a friend last week in whose house there is a fine colony of bees which have built their combs under the second story floor, between it and the ceiling underneath. They enter through a crack under the eaves of the house. They have been there 8 or 9 years. Last year the lady came to see me and told me about them, and I advised her to take up the floor and get some of the honey—insisting though on its being done early in the season so that the bees would have time to gather more. When I was there the other day she told me that she had taken from them 5 gallons, or more, of nice honey. She did not invade the brood nest and did not see a cell occupied with egg brood or pollen, or any empty comb but all filled with capped honey. She is quite delighted with her little storeroom, but intends trying to get a swarm from it next spring by setting a hive above with a hole bored in it and a corresponding one in the floor immediately beneath it. I advised her to insert some of their own unsealed brood with adhering bees in the proposed hive and promised her an Italian queen for the new stock.

I have a friend near Bayou Sara, La., who has a stock of bees between the walls of an out-house in her yard, which have been there three years, and have supplied the family with some honey each year, though they are not so comfortably situated as the bees mentioned above. The outer boards are thin and there are some cracks so large that you can look through them and see the bees and their stores. The combs are parallel with the boards, so there is only room for two or three, and the poor bees must feel some of our sudden changes of temperature very keenly. These bees are in charge of a very intelligent and interesting little boy. I was there a while since and he was delighted at the prospect of a bee chat, but commenced thinking the grown folks would not give him a chance for it after all, so after a while I proposed to him that we should just have mama and sisters go to the bees and he could ask as many questions as he pleased. He had another stock which he had managed very well. It was in a box hive, but he shaded and fed it and cleaned out the moths as well as he could.

I have still another friend—all of these ladies are widows—who is living in a house that must contain many swarms. They are located in the walls and in the spans above some dormer windows. They supply her with more than enough honey for her table.

A gentleman of my acquaintance has a widowed aunt, in whose house some bees have made themselves a home in a dormer window for many years. The window is kept closed and they have a nice roomy house. She suspends frames and gets them filled. What a pity Novice's house apiary proved a failure! Such a contrivance would put an effectual stop to the stealing of honey from the hives—a desideratum devoutly to be wished here.

Many years ago a colony of bees took up their quarters on the outside of a large tree near Vidalia, opposite Natchez. The manager of the place would never allow them to be disturbed, and they remained there for a number of years. In parts of Texas where trees are scarce I am told bees often locate in the grass, on bushes, or on the outside of their hives when full and can find no better places, and they manage to live and often prosper in these unpromising homes.

In spite of our sweet, bright flowers the year round, I fancy if they could choose, our little pets would take a little of your winter to get away from some of our summer. I think, perhaps, much of their short lives is worn away in trying to keep cool, so I do as much as I can to help mine in this endeavor—shade as much as possible and sprinkle when very hot and the water can be had. Last summer I had an opportunity of learning how much heat one little bee can fan away. I had an immature drone on my finger, which I had just killed, a worker lit on it and commenced fanning, perhaps she hoped to restore it; her wings moved so rapidly that I could not see them, and if my finger had been dipped in ether it would not have felt colder. Twice I have chanced to have bees open when a storm suddenly came up. The behavior of the little creatures was strange, beyond description. They were buzzing as usual when they noticed it and instantly they became as still as death. Nothing could have displayed terror more plainly than their demeanor.

Woodville, Miss. ANNA SAUNDERS.

Old Silas Hiving Bees.

WHAT HE EXPECTED, AND WHAT HE DIDN'T.

The old gentleman's name is Silas, and that of his eldest son is George; his wife's name is Matilda, and his three pretty daughters are named Helen, Alice and Susie; there is a little Silas, too, and an other boy whose name is too queer to mention.

The bees had alighted in a great bunch, as large as a half-bushel measure, on the limb of a peach tree in the yard. A table is placed under the overhanging limb, spread with a clean white cloth, and the hive placed thereon.

Then one of the boys, one that is good for nothing else, is sent into the tree to sever the limb; the limb comes down slowly and easily, and the old gent below, dressed in a great coat, buckskin gloves, cowhide boots, and a bed quilt tied around his neck and face, slyly manipulates a twig from the tree, and in two minutes has safely coaxed every bee into the hive, during all of which time Matilda and Helen and Alice and Susie pound the bottoms out of just four tin pans; little Silas does his prettiest yelling, while the boy with the queer name is just old enough to slip behind the house and wait for the thing to come to a point. That is the way the thing ought to have gone off; but that isn't the way it did. Silas, the elder, was very comfortably bundled up for so warm a day, and he had his suit well arranged, only he forgot to tie the strings around the bottom of his pants.

The bees had settled on the limb of a peach tree, and Silas, when his table and white cloth and his hive was all ready, commanded:

"Now, George, grab that old rusty saw and climb; I guess you can cut that small limb off easy enough."

George was just home from a six month's term of school, and he felt a great tenderness for his father, and would have gone through a patch of thistles bare foot to please the old gent, and yet he had a particular dread for the "business end" of a bee, and particularly of such a crowd of them. But he obeyed, and began to fiddle away cautiously upon the particular limb. One little bunch of bees dropped off and were caged; another, and another small bunch dropped, and the prospect seemed good, when suddenly an old honey-maker appeared, who had been in the business, and soared upward. George shut up one eye quick, gave one terrific surge on the old rusty saw, got out of that tree at one jump and his anxious mother caught a glimpse of him as he flew round the corner of the barn twenty rods away.

But poor old Silas! The bees came down and he thought the bunch was as big as a hay-stack now. They did not go into the hive, but they went through his overcoat and bed-quilt as if these had been only mosquito bars, and they climbed up his pants legs, and the old gent danced as he had never danced before; and he slapped his legs, as he had never allowed any one else to slap them, and his voice towered high above the clatter of the tin pans and the shrieks of little Silas as he yelled:

"Throw water on me! throw water on me! soak me, wet me down!"

He rolled three or four times over in the grass, and sprang up, shouting, "slap me! slap me! can't you slap me?" in the midst of which little Silas crept up behind his infuriated papa and dealt him a lively one with a shingle; but poor little Silas landed the next second against the milk-house, for his pa took him and his shingle for a thousand bees, and gently brushed them off.

Oh, the agony of that three minutes jig! He appealed to his wife.

"Matilda, for heaven sake, bring me another pair of pants, won't you!"

But these things don't last always, any more than any other happiness, and after a few minutes the old gent came limping out of the cellar with the pants on that Matilda brought him, feeling much easier, but certainly much fatigued, just as George got back from the barn and the boy with the queer name slipped around the corner of the house. Both boys were anxious to know how matters stood, and asked:

"Did you get 'em hived, pa?"

But the old man was too mad to answer, or even look at his boys. He turned to Silas and said:

"Little one: you meant all right, and I'm sorry I cuffed you so; next time don't slap so hard."

Then to his wife, "Matilda, to you I owe everything. Accept my heartfelt gratitude. We'll take no more stock in bees. I have made up my mind, and its settled. May our quiet, peaceful farm home never be so stirred up again. Seems to me I never had so much of life crowded into a few short minutes before. Run after the cows now, boys; be off, for its almost dark."

OBSERVER.

For the American Bee Journal.

Comb Foundation.

We have given the comb foundation a pretty thorough trial, and I must say it pleases us highly. Have 4 lbs. of it in our hives now, and it makes just as pretty, stright worker as ever gladdened the eyes of a bee-keeper. At first we put in too much of it, filled the frame too full, and the weight of the bees sagged it so that it would roll up an inch or more on the bottom bar, and the cells towards the top were all twice as long as wide. That was in the strongest stocks, but in the lighter ones and less bees they built it out straight as a board. The only fault we find with it is there isn't enough of it. We want more but can hardly spare "ye stamps." I think we shall want a good many pounds another season.

Last year I got ten four-frame nuclei with dollar queens from J. Oatman & Co., Dundee, Ill. They built up into ten good strong stocks; wintered tip top, two lost their queens in the spring. Two of them have now increased to three swarms each, two others into two swarms each, and the rest have helped hugely by brood and bees to build up new stocks. Have just got another dollar queen from the same gentlemen, and I must say without any exception, they are the quitest, prettiest bees I ever handled, and every queen a pure one. I raise all my queens from my "Dundee No. 4;" $25 would not buy her.

WM. M. KELLOGG.

Oneida, Ill, July 25, 1876.

Los Angeles B. K. Meeting.

The Bee-Keepers' Association met at the ranch of Mr. A. J. Davidson on July 15.

President Bruck called the meeting to order.

The minutes of the last meeting were read and approved.

Mr. Davidson read a report from the committee on sale of honey. Also a letter from J. S. Harbison in regard to the same matter in San Diego. He stated that he had letters from the principal bee-keepers in San Bernardino and Ventura counties, who expressed themselves willing to co-operate with us.

REPORT OF SPECIAL COMMITTEE.

DAVIDSON'S APIARY, July 15, 1876.

Mr. President, and Members of Los Angeles B. K. Association.

LADIES AND GENTLEMEN:—In pursuance of a motion passed by our honorable body, appointing a committee to confer with bee-keepers in this and adjoining counties, for the purpose of securing a fair price for our products, we report the following:

We have received favorable answers to letters written to some of the principal producers of honey in San Bernardino and Ventura counties, in which they promise co-operation, as individuals, and would try to effect an associated action. All, as far as heard from, including representative men in this and San Diego counties, realize the justice and importance of our movement, as it will protect not only the producing class, but also the dealers in honey. We are advised by San Francisco dealers, that producers are very much to blame in our present demoralized market in that city, by ordering forced sales while it is out of season for its sale; and also by sending to parties who, by inexperience, are not informed as to this fact, and have consequently sacrificed their consignments. Our local home markets have been effected in a similar way to that of San Francisco, and all of these will act and react so that our Eastern markets will be affected in like manner, according to the well-known laws of trade.

We are also in possession of facts which show clearly that the crop of this season is not large, and if properly offered for market and in the right season, there will not be enough to supply the markets that should depend upon us for this useful article of food. These, with many other reasons that could be adduced, lead us to advise patient adherence to plans that accord with the spirit of the resolution which called into existence this committee.

L. S. BUTLER, Com.

It was moved and adopted that the committee ascertain the charge for a store room in Los Angeles, find a competent person to take charge of and grade honey, and ascertain what his remuneration will be for grading and for selling and shipping honey from this store room.

It was moved and adopted that a competent person be appointed to proceed to San Francisco to urge upon the honey dealers the necessity of co-operating together, of holding the honey until the demand is such that a fair price can be obtained, and to induce them to make advances to producers who may be in need thereof, without sacrificing the honey at a low, non-paying figure.

Mr. A. J. Davidson was appointed agent, and agreed to start as soon as he received $25 to defray his traveling expenses.

It was resolved that a collection be taken of voluntary contributions for this purpose.

Mrs. B. Richardson invited the Association to meet at her place on the first Saturday in September. The invitation was accepted.

The Association tendered thanks to Mr. Davidson for his hospitality.

Four new members joined the Association.

The meeting then adjourned to meet at Leck's hall on the third Saturday in August.

W. MUTH-RASMUSSEN,
Secretary.

For the American Bee Journal.

Introducing Queens.

The killing of queens by introducing is a curse as heavy to the buyer of queens as to the seller. For this killing can happen without the control of the bee-keeper, and, of course, he accuses the sender of having furnished him with a black or hybrid queen instead of the imported or tested one paid for.

I see in the AMERICAN BEE JOURNAL for July the directions given by Nellis Bros. for introducing queens, and want to make a few remarks on this question.

The method proposed by Mr. Nellis will do if the queen to be introduced is on hand. But suppose she is ordered from a bee-breeder, and that from some cause or other she does not come when expected; or that she arrives dead. Then this method is at fault. Therefore it cannot be relied on in every case. Especially this removing of the queen, 7 or 9 days beforehand can not do for us importers. Each invoice of bees from Italy remain from 22 to 31 days *en route*. We cannot tell in advance the precise time of the arrival, and take out the queens in advance; besides, some invoices contain a good many live queens, while others very few. The second and third invoices that we received from Italy this season had only six queens alive out of 44; the fourth and fifth had 43 out of 44. So it would have been an impossibility to have taken out the queens to be replaced by the imported ones, before knowing the number of queens alive, and the imported queens are tired when they arrive, so tired that a delay of a day, sometimes of a few hours, causes the death of one or two queens.

But this is not all. By the method of Mr. Nellis you have to cut all the queen cells which have been made during the 7 or 9 days of the queenlessness of the colony. In very strong colonies to find every queen cell is very difficult. If you miss one your queen will be killed. I know of several bee-keepers who have had their queen superseded in that way. While others were not aware of the fact and accused their senders of having sent a hybrid queen instead of a pure or tested queen, when the change had happened in their own apiary without their knowledge of the fact.

Is it not more expedient and more safe not to remove the queen to be replaced, before the queen to be introduced is on hand, and to put in the hive the queen caged for 36 or 48 hours, taking care not to disturb the bees and not to let any robber introduce itself in the hive when you liberate her?

Out of 54 imported queens introduced this spring in our apiary by this method, we have lost but one, who was sick and died a few days after her introduction. The only bad chance that we have encountered with this way of introducing, as is related in the

AMERICAN BEE JOURNAL for March, 1876, page 69, is that it sometimes happens that there are two queens in the hive; the one remaining caused the death of our queen. We have had in our apiary and at one of our neighbors a few similar instances, but they are of rare occurrence.

CH. DADANT.

Parasites on Bees.

The *Rural World* reports that at the last meeting of the St. Louis Academy of Sciences, Prof. C. V. Riley, the President, read a communication from G. W. Barnes, of San Diego, Cal., in relation to parasites found upon bees in that State. The parasite was described as the color of a flax seed and easily distinguished by the naked eye. It appears usually under the wing of the bee, and adheres with considerable tenacity. It occasionally crawls all over the bee, and is quite agile in its movements. The bees afflicted with the vermin become agitated and move rapidly over the comb, frequently dying of injuries. The parasites were first noticed there last year, and have again appeared this season, giving considerable trouble in large apiaries. Specimens of the insects afflicted accompanied the letter, and Prof. Riley said the parasite was the larva of the blister beetle. It was well known that these larvæ attach themselves to bees and were thus carried into the hive, where they usually left the grown bee and attacked the larvæ. Prof. Riley had not before heard that these insects injured the fully developed bees. The information was valuable, if reliable.—*Rural New Yorker.*

From the Los Angeles Herald.

The Successful Apiarist.

We often hear of men who, by their labor, courage and coolness, have distinguished themselves in battle, and thereby won the plaudits of their countrymen. Their efforts in life are pronounced a decided success. The agricultural press gives, from time to time, accounts of farmers who, commencing in life with little or no capital, have by economy, perseverence and industry secured for themselves and their posterity broad, fertile acres and beautiful homes. They, too, have been successful. And that there are those who have been eminently successful in our favorite pursuit of bee-culture is well attested by accounts previously published in our journals. The successful bee-keeper, who is he, and what are the rules he adopts as a guidance for his actions? These are the questions we wish to consider, and in so doing we shall submit general principles only. In the first place, he is a person of energy, perseverance and intelligence. He obtains all the information he can in regard to his pursuit, by reading the experience of others and comparing it with his own. He accepts nothing as a fact until it has been demonstraed by experiment to be such, and in giving others advice he relates only what he *knows* to be reliable. He knows at all times the exact condition of his bees, and does not leave them to take care of themselves. They receive all needful care and attention, at the *proper* time. His hives are of a uniform size, and, of course, contain the movable frames. His bees are not allowed to overswarm, and thus become a prey for the moth, but are strong in numbers at all times and seasons of the year. To secure this result, he uses the mel-extractor freely, keeping the brood combs clear of honey in the working season. He rears his queens from his best and purest stock of Italians, mating them with drones reared from good honey-producing stocks, being careful to avoid "in and in" breeding. His hives, if wintered out of doors, are protected from cold and dampness. And finally, he is an enthusiastic lover of his little pets, and studies their nature and habits with commendable zeal. Many there are who are about to engage in bee-culture for the sole purpose of making money thereby. And this they expect to do with but little expenditure of time, labor and capital. Let all such persons remember that those who succeed in any busines, are the ones that engage in it from a love of the pursuit, and are willing to devote their best energies to it, with a determination to master every difficulty, and excel in every undertaking. HERBERT A. BURCH.

From the American Agriculturist for Aug.

Bee Notes.

As the honey yield draws to a close, which, in most sections, will be during this month, care must be taken to avoid too many partly filled boxes. Beginners are apt to continue to supply the place of full boxes with empty ones too late in the season. Instead of this, the number of boxes should be diminished, and in some cases those colonies which work in boxes most rapidly, should finish such as are partly filled by those that work less freely. Box honey that has been removed from the hives, and packed away as directed in the July notes, should be examined occasionally, and if the moth-worm is found in any, they should be either removed, or the boxes placed in a tight box, and fumigated with brimstone. Such boxes should be placed by themselves for home use, and when honey is taken from them for the table, all places disturbed by the worms can be cut away. A correspondent asks how the worms could get into his boxes, as he sealed them up tight when taken from the hive. The eggs were deposited in the boxes while on the hive, and sealing up closely aids the progress of the worm, by retaining the heat. Worms are seldom found in boxes, except such as contain bee bread.

In most sections swarms will not issue later than this month. Each swarm should be examined to ascertain if it has a laying queen. Young queens are liable to be lost, when sometimes a swarm has no means of rearing another, and unless another queen is supplied, or brood from which to rear one is given, the colony will soon be worthless.

On page 254, of the July No., under the head of "Among the Farmers," your correspondent asks a plain, practical question, and justly heads his remarks, "Wasted Sweets."—"Why is it that we have no more bees?" is a question that claims the attention of every farmer. In attempting to give some of the reasons why so few bees are kept by farmers, I shall differ somewhat with your correspondent. If all who have attempted bee-keeping had been success-

ful, the number of colonies throughout the country would be far greater than at present. The real answer to the question is, that the advance that has been made in bee-culture during the past few years, is not generally understood. The foremost reason that would be given by the inexperienced, would no doubt be *the fear of stings*. Were the present facilities for subduing bees, and the ease of ample protection properly understood, the fear of stings would become one of the least hindrances to bee-culture. Again, many farmers, as well as others, would keep a few swarms, if it were not for the idea that they must be watched during swarming time, and thus interfere with their general business. This belongs with many other absurdities of old time bee-keeping. Your correspondent speaks of the ease of preventing loss of swarms. If he means glass during winter and spring, I think he is in error. This is the knotty point of bee-keeping. Not that the loss may not be prevented in a great degree, but he should have said, with *earnest care and attention*. He suggests that it is not safe to move bees less than three miles. Many can testify to having moved them one mile, and even less, with entire satisfaction.

I am aware that in urging all to investigate the interests of bee-keeping, I expose myself to criticism. We are told by those interested in the production of honey, that in so doing we are working against our own interest. I can hardly believe their view correct, and if it were, we should hardly be justified in remaining silent, while, as your correspondent truly says, "forage for bees abounds, and acres of honey are hardly sipped." Let me urge then that the readers of these notes procure some standard work on bee-culture, and learn for themselves what, as the late M. Quinby expressed it, "they are losing, not for the asking, but for the taking." Besides it is an interesting pursuit, so much so, that if those who study it never keep a bee, it will be time well spent to learn their natural history.

Let me not be understood as conveying the idea that it is a business in which any one can be successful without persevering study and effort, and if one engages in it extensively, he will find plenty of hard work. Bee-keeping as an exclusive business, and the care of a few as amusement or for home supply, involve altogether different methods of handling and practice. While few are adapted to pursue bee-keeping on a large scale, almost any one can succeed with a few colonies.

Mohawk, N. Y. L. C. ROOT.

Honey Cakes.

Mix a quart of extracted honey with half a pound of powdered white sugar, half a pound of fresh butter and the juice of two oranges or lemons. Warm these ingredients slightly, just enough to soften the butter, and then stir the mixture very hard, adding a grated nutmeg. Mix in gradually two pounds or less of sifted flour, make it into a dough just stiff enough to roll out easy, and beat it well all over with a rolling pin; then roll it out into a large sheet half an inch thick, cut it into round cakes with the top of a tumbler dipped frequently in flour, lay them in shallow tin pans slightly buttered, and bake them.

Ligurian Bees.

I have been greatly interested in what has been said for and against Ligurian bees, and the conclusion that I have come to is that—First, there must be a profit in keeping Ligurians for sale, to sell in swarms, or to sell queens for ligurianising other swarms; Second, that they are no better honey-producers than the common bees; and, Third, that therefore, to those whose aim is profit by means of honey, it is a loss to invest in Ligurian bees. These conclusions have been arrived at in various ways. So many of the evidences in favor of Ligurians came from parties who had them to sell, that I could not think their evidence was of a disinterested kind. Then I was greatly astonished that last year no one accepted the competition proposed by Mr. Pettigrew, who advocated the British bee; and, again, your correspondent "B. & W.," who otherwise appears favorable to the Ligurian makes this important statement: "I must acknowledge that I am far from satisfied that the common English bee is not in every way as profitable as the Italian bees. I have now had them for many years." Mr. Pettigrew has the warmest thanks of many. He has fought unflinchingly on behalf of the English bee, and thereby deterred those whose aim was profit from incurring needless outlay in buying bees which, after all that has been said in their favor, have so little proof of their superiority as swarmers or honey gatherers.—*London Cottage Gardener.*

[Is it possible that the different bee-keepers of England are all agreed on the equal value of the common black bee with the Italian, except those who have Italian bees or queens to sell? We would like to ask the *British Bee Journal* what proportion of those who keep bees for the profit of the honey prefer the black bee? Brother Abbott, please tell.—ED.]

From the Los Angeles Herald.

A Nut for Bee-Keepers to Crack.

It is, we believe, generally conceded by all, or nearly all, of the leading apiculturists that the fertilization of queens in confinement is numbered among the impossibilities, or, at least, has proved a failure so far. We are not among the doubting; we believe it can be done and has been done. Now for the facts. While examining a colony of bees in the Los Angeles Apiary one month or six weeks since, we noticed a young Italian queen that had just emerged from her royal birth place with only one wing and a small stub of the other. We at once called the attention of the proprietors of the apiary to the fact, who, after a brief consultation, decided to supplant her at once with a fertile one, as she would never be able to fly, and consequently would never become fertile. We urged them to let her remain a few days and see the result, to which they consented. In about one week we examined and found she was yet unfertile. It was then decided to let her remain still longer. In eight or ten days after she was again examined with

like result. It was then determined by one of the proprietors, who was present, to at once dispatch her. As she was a fine looking queen we interceded in her behalf, when she was turned over to us. We at once placed her in an ordinary sized queen cage, with a single Italian drone, and placed the cage on the top of the frames in a queenless hive. Next morning, on examining the cage, we found the drone dead. We then liberated the queen, and in about four days she commenced laying, and is now a prolific queen, raising brood abundantly. Now, the query is, did she become fertile in the cage or in the hive?—for she cannot fly. The proof is clear to us that it took place in the cage, or in the hive, and if so there is no doubt in our mind but what fertilization can be accomplished in confinement. N. LEVERING.

Our Letter Box.

La Salle Co., Ill,, Aug. 4, 1875.—"My bees are now at work on catnip."

H. L. BRUSH.

Bonham, Texas, July 25, 1876.—"Bees in Northern Texas have done very poorly this season. Too much rain."

L. M. LINDLEY.

Grant Co., Wis., Aug. 4, 1876.—"The honey crop has been very poor here for white honey. There is a great amount of white clover, but it seems to yield no honey, and the basswood blossoms were an entire failure. Fall flowers and buckwheat are in full bloom here now, and promise a fair crop of honey." B. KRONSHAGE.

Henry Co., Iowa, July 24, 1876.—"Bees are doing well. Some have made as much as 100 lbs. of box and small frame honey to the stand, but strange to say that nine-tenths of them swarmed without starting queen cells. I think we had the Centennial swarm, as we had six of them come out at one time and all go together, one of them had an imported queen. We have had 42 natural swarms and saved all except one—it took Horace Greely's advice and went west." JOHN A. THOMAS.

Lucas Co., Ohio.—"On the Bay, July 24, 1876, I saw a king bird catch several bees. I shot him at 5 p. m., and send you with this the contents of his craw. On the 26th I shot another, send you also the contents of his craw. If they come to you as I put them in this letter, you will find two worker bees and two drones. They appear to have been swollowed whole. The bird is very destructive on bees. I have killed twelve this season; two of them were catching bees on the flowers at least 80 rods from any hive, on what some call the tony burr—the best honey plant from the last week of May to the middle of June that grows about here. NORTON CASE.

[There might be some doubt about the first named mass being the remains of bees, but in the second case we think there can be no question about there being four bees among the mangled parts.—ED.]

Jefferson, Wis., July 31, 1876.—"Bees are doing poorly here. They will scarcely gather enough to winter on, if August does not make any better results. Buckwheat may do something; though there is but little raised here. I fear I shall not get an ounce of surplus. I enclose a bee that the bees have thrown out of the hive this evening. Its feet are very peculiar. What is the matter with it? WM. WOLFF.

[The feet have attached to them little yellow particles that have sometimes been mistaken for insects. These attachments have been got from the milk weed on which the bee has been working, and when its feet are so clogged that it can no longer climb in the hive, it is driven out. But few bees are ever lost by it.—ED.]

Knox Co., Ill., July 27, 1876.—"Bees have done well here all summer until last week, and even now the strong stocks are putting in some surplus. I had 9 stocks in spring and now have 23, besides selling two, and have taken 300 lbs. of extracted honey. The comb foundation warrants all you said in regard to it. I have a lot of it now with capped honey for about 3 inches at top and the balance is capped brood, and straight as a board, but you should give some directions far putting it in. A frame must not be filled with it, but leave about one inch at each side and use it only 6 or 8 inches deep, as it seems to draw down by weight of bees and also spreads laterally. We cannot say too much in its praise and I think it worth to bee-keepers $3 or $4 per lb., rather than let bees build all new. I had some of the foundation with brood in (that is, eggs) 24 to 48 hours after inserting it. I shall have to send you another order soon, as I shall need some more yet." I. W. CRAMER.

Coshocton Co., Ohio., July 26, 1876.—I owned bees ever since I was a little boy (I am now 54), all I knew about them was to brimstone them. I learned that from my father. I have two stands yet, one pretty good and one very weak. I was doing nothing for them and they were doing nothing for me. They did not swarm this last two years. Last fall an agent called with R. P. Starbuck's Union Bee Hive. He wanted me to buy one. I refused and told him it was a humbug. He went away and finally came around again and staid with me all night. Persuaded me next morning to buy one. That was Jan. 18, 1876. Transferred the best of the two and told me a little how to manage them. In two weeks the agent came again with the patentee. They transferred the other colony and told me how to feed and manage them. Mr. Starbuck advised me to send for THE AMERICAN BEE JOURNAL. That was the first I ever heard of it, so I got him to send for the JOURNAL. Mr. Starbuck told me how to make an artificial swarm. But I could not do it if it were not for the JOURNAL. But the JOURhelped me and I got it done first rate. On the 8th of July I undertook to make an artifical swarm. I never saw one made, but I had a piece of the JOURNAL in my head and got it done right, so I tried the second hive and to my great surprise each one cast a swarm—the first one in 12 days, the other one in 13 days. Good swarms they are and doing well. I am a thousand times thank-

ful for the JOURNAL and Starbuck's Union bee hive.'

While I am a greenhorn in bee-culture I must ask a few questions: Do you know anything about Mr. Starbuck, or of his hives? I got the JOURNAL for six months now and not a word of Starbuck's.

Please let me know how Langstroth's hive is made, and how the separate boxes are made and placed?

When is the time and how soon can I shut the drones out? My hive is so constructed that I can shut them out at will.

Which do you suppose is the best hive in use? There is the Quinby, Langstroth, Standard, American, Gallup, closed-end Quinby; mine is the Union bee hive.

Do you believe at all in shutting off the drones? I can't get my bees to work in the separate boxes. What is the cause?

THOS. SHENEMAN.

[When an artificial colony is made and allowed to raise a queen, if it is so made as to be very strong, it will often cast a swarm within 12 to 14 days, precisely as a colony which has swarmed naturally will throw off a second swarm.

We know nothing about Mr. Starbuck's hive.

As soon as your queens are all laying, there is no further need of drones, although drone traps are not generally valued.

There are different opinions about hives. Probably the Langstroth is the most popular. The principle is simply a box containing movable frames, the surplus boxes of any desired size being placed upon the frames.

Your bees probably do not work in the boxes because the body of the hive is not yet filled. They ought not to be asked to work sooner in the boxes.—ED.

Macomb Co., Mich., July 24, 1876.—"I started last year with 3 colonies, increased to 9, bought 12 this spring, have increased to 46 up to date. Sold last year from the 3 and their increase $118 worth of honey; have sold $47 worth this season, and have some $25 on hand and a good store in hives which I shall take out as soon as they commence on buckwheat. The season has not been good here this year, too wet, no honey in blossoms now, am in hopes of a good supply of fall honey, think we will get it but may not. Will not give up in despair if I do not. I had an honest picture drawn up by H. Livingston, of the uncertainties of the business, when he first encouraged me to commence. I know he had no object to advise me wrong, therefore I invested a little money and time for which I have no reason to complain as James Heddon does. If a beginner should listen to him he would not hold out long. I am sorry to hear one of our Michigan men complain so bitterly of a thing he can so easily quit. I do not think that I complained much worse or more during 15 months imprisonment in the Confederacy, and I was confined in five different prisons, among which I name Libby and Andersonville prisons. I wish Mr. H. would try and brace up and give us one consoling word during the next 18 months."

WM. P. EVERETT.

Platte Co., Mo., July 19, 1876.—"A few words from North-West Missouri may not be out of place. This is my second year in the bee business. I wintered 13 colonies last season and bought one this spring. Bees did poorly here early in spring; the weather was wet and cold. They got no benefit from fruit blossoms. When black locust came out they did well, raising brood. Since June 29, I have taken something over 1,100 lbs. of extracted honey, all from linn—basswood. I should have had, I think, a much larger yield had the weather been favorable. It rained nearly half of the time while basswood was in bloom. The honey was white and very nice. Have no trouble to sell extracted honey here. Sold in the little town of Platte City, 600 lbs. Expect to sell all my surplus here in this (Platte) county. Sell at 15 and 16 cents per lb. Have not learned Geo. H. Mobley's way of getting box honey yet, but don't have to wait until late in the season and then take dark honey. We take honey all the season through. Have increased my bees to 24 strong colonies and expect a good yield this fall, if the weather is favorable. All the knowledge I have of bees I got from your valuable AMERICAN BEE JOURNAL. I am making up a club for it that I will send in soon."

P. H. BOHART.

Wooster, Wayne Co., Ohio, July 24, 1876. —"MR. EDITOR: As you are aware of my illness for some time past, I take pleasure in informing you that I am improving. At present am able to oversee my bees somewhat. I think this is one of the best seasons I ever witnessed, I am very sorry that I was not able to attend my bees and see what profit there could be made from bees here. I had 22 hives last spring. Sold 3, leaving 19; having 25 at present. I have had them kept back, to make as little trouble as possible. Had a good many swarms but still had the most of them put back, having no hives to put them in. My bees are very strong. If I was well I could easily double them all yet. I suppose I will get about 400 lbs. of box honey this fall, while if I had been able to attend to them, as I wished, I could have had 50 colonies of bees and 1,000 lbs. of honey by this time. The like of white clover I never saw here before, and the honey is excellent. People think they never ate such honey before. I agree with our Illinois friend in regard to the king bird. I have killed a number of them and making a close examination there was nothing found in them belonging to a bee but the sting and sometimes the hind legs. It has long been my opinion that they do not eat bees, but suck out the honey; but, eat or not, they kill the bees, so my advice is kill every king bird that comes in your way. I presume that our readers think it strange that I have never made any reply or mentioned anything in regard to the statement concerning me in the May number of THE AMERICAN BEE JOURNAL. The statement referred to is all correct, but I have not heard from one bee-keeper yet, but am still in hopes. I have not been able to work more than four years out of the last ten. These fresh attacks were brought on by hard work, so I concluded to be a bee-keeper the rest of my days, and if I can keep my bees until I get well again I think I can live without hard work. My friends here will take good care of me while I am

ill, but my bees will go to loss for the want of care if I don't get some help, for I cannot do it, and have not the money to hire it done." D. H. OGDEN.

Dakota Co., Minn., July 17, 1876.—"Last fall (I think about the middle of Nov.) I carried 30 swarms of bees into the cellar under my house; or perhaps some would not call it a cellar as it is only a place dug out, with earth for walls. On a part of the hives I had a quilt or a piece of carpet, without cover, and a part with honey board, with some of the holes open, always with bottom holes open, and of course upward ventilation through quilts or honey boards. The cellar ranged in temperature from 36 to 54 or 55 degrees all winter. All came out strong. I let them out the 10th or 15th of April, and found no mouldy combs. The winter before, I wintered 17 swarms the same way and in the same place. All came out strong. I have never yet been able to winter bees in my cellar with the hive perfectly tight above, without mouldy combs or loss of bees. They did well here in the spring. The first thing they work on is the wild willow and then comes the white or gray willow, which furnishes a large amount of honey, but is of short duration—only about one week. During white willow I weighed three hives one day, the gain in weight was 1½, 2½, and 4 lbs. Fruit blossoms closely follow the white willow. Bees began to swarm the 1st of June, but it has been so exceedingly dry that they have gathered but little more honey from white clover (our main supply here) than they have used. They have gained some the last week from sumac, and are now busy at work on basswood. I sold one swarm of bees in the spring, and have increased from 29 to 49, and lost two swarms."

L. E. DAY.

Obin Co., Tenn., July 27, 1876.—"I send a branch of a plant found in this county, that the bees are very fond of. It grows to the height of about 6 feet, and branches abundantly; flowering for about six weeks. I suppose it to be valuable, but do not know a name for it. I intend to save all the seed I can." G. H. BYNUM.

This plant is the well known Melilot or Sweet Clover (*Melilotus Alba*). It is considered by bee-keepers as one of the best honey plants, yielding a very superior quality of honey. C. E. BESSEY.

Agr'l College, Ames, Iowa.

Nashville, Tenn., July 22, 1876.—"I had a colony of bees to swarm and when the time came to examine for the young queen I found only a few scattering eggs in the combs, and a few sealed brood. This brood was the progeny of their young queen. I also found a sealed queen cell. I then looked for the queen but could not find her. I then closed the hive and waited until I thought the queen cell was hatched. I then examined and found the queen hatched and the first hatched queen on the same comb, and eggs and unsealed and sealed brood as before. The first hatched queen looked sickly and moved slowly on the comb. I removed her, taking her in my hand, about 40 yards from the hive when she got away from me, flying up in the air. I did not think she would go back to the hive again but would be lost. I waited 9 days before I again examined, and found the same two queens in the hive and brood in the same stages as before. The last hatched queen had not become fertile. I removed the sickly queen—killed her. I then waited 10 days longer and examined and found plenty of brood and eggs regularly placed in the cells. It was not the old queen that was left in the hive for I secured her with the swarm. It was about 22 days after the colony swarmed before I examined for the young queen. I am sure that the second young queen was the progeny of the first hatched queen. Please give me your idea about this colony of bees." H. W. ROOP.

[The queen was a poor one; the bees knew it, and immediately set to work to provide a successor.

We had at one time a queen raised by a very weak nucleus which was a long time about commencing to lay. We watched very closely and at last found two or three eggs, from one of which the bees started a queen and superseded the old one. We should prefer a queen raised from a sound, healthy mother.—ED.]

FOR INTRODUCING QUEENS.—One drop of sulphuric acid to a cubic inch of water. Wet the queen with it, and then introduce. I have tried it six or eight times with success. T. W. LIVINGSTON.

Ainsworth, Iowa.

[We have introduced many queens with no precaution whatever when honey was yielding plentifully, and at such times almost anything would seem to be successful. Without further trial, we should hesitate to trust the acid in introducing a valuable queen to a colony just deprived of one at a time when forage was scarce. We shall be glad to hear of further trial at such a season.—ED.]

Hamilton Co., Ind., Aug. 10, 1876.—"I have been at Mr. Salisbury's on a visit. He has 300 colonies of as fine Italian bees as I ever saw. He demonstrates one thing which my own experience corroborates—that bees will pay. He has 6,000 lbs. of comb honey in a nice convenient shape for market, besides having sold a large lot of bees and queens. The proceeds of his apiary this year will be nearly $1,500. I commenced this spring with 27 colonies. Have made $550. This includes the increase, 17 colonies at $10 per colony. Have cleared over $300. I commenced bee-keeping in this country 15 years ago. I stuck closely to it even when every one else had quit and denounced it, and I made it a success." JOHN ROOKER.

Marshall Co., Kansas, Aug. 14, 1876.—"I have received the queen you sent me and am well pleased with her. I had good success in introducing. She is working finely. Kansas is good for bees. My hives are 28 inches in length, by 12 inches wide, and 13 inches high. The bees have them all full." E. DE LAIR.

Allen Co., O., Aug. 16, 1876.—"My bees have done well this summer so far, and are yet getting sufficient to keep them working in boxes, and are swarming some."
J. E. RICHIE.

Barren Co., Ky., Aug. 17, 1876.—"This was the finest sumac harvest I ever saw, but it rained every day for three weeks and ruined its honey-producing qualities. Bee-culture is greatly on the increase here."
I. N. GREER.

Chicago, Aug. 18, 1876.—"Ed. A. B. J.—In answer to numerous letters of enquiry, and for the general information of bee-keepers, I will say that of all methods tried by me to fasten comb foundation in frames, I prefer to do so with wax. I take a board ⅜ inch thick, the size of inside of frame, and fasten it in flush with one side of frame, and then put the foundation in the frame laying on this board, fitting the underside of top bar and about ⅛ inch from either end piece, and say ½ or ⅝ inch from the bottom bar. Pure bees wax will stretch but a trifle; that mixed with paraffine stretched so as to be worthless in every experiment I have tried. I would not advise heavy swarms to be put into hives filled only with foundation, as this weight might pull down even pure bees wax, but know that if alternate combs and foundation be put in, even for the strongest swarms, they will stand, as the bulk of the bees will go on the combs first and a few bees will first fasten the foundation more securely, and then more bees go to work in extending out the cells. I would advise taking out outside frames which are generally filled with honey and making room for 2 or 3 frames with foundation in the middle alternately, as before mentioned, in the midst of the fullest brood frames. I have had about 125 thus built this season. Most queens prefer new comb to lay in but I had one that seemed to prefer old comb. I have 19 stocks in ten 7x18 inch frame hives, near the city limits; increased from 10; but little surplus. I hope we will have a full and candid expression from all who have used foundation. C. O. PERRINE.

Palo, Mich., Aug. 14, 1876.—"I have discovered that when cold, freezing weather comes on in October that the queens not only stop laying, but that the majority of the brood and eggs in the cells are destroyed by the workers. This to me looked like a considerable loss of bees, especially when I was anxious to increase my colonies as fast as possible. I concluded that a colony without a queen would not be likely to destroy their brood and that it would be much better to have them hatch and use them to make new colonies than to have them lost. In doing this it is necessary to rear queens for them early enough that they may become impregnated while the weather is warm and drones are plenty. For this purpose I rear a lot of queens in August and keep them in a hive containing a small nucleus colony until they are needed. When cold weather and hard frosts come on in October I place an empty hive by each of my nucleus colonies until I have hives enough to make new colonies of the brood that would otherwise be lost. I then proceed to overhaul my colonies and select all the good combs of brood and place them together with adhering bees in the empty hives and put in their place other combs containing honey. Care must be taken not to take the queens along and not to allow them to rear queens, as they would not be likely to become impregnated and would make trouble to hunt them out before introducing a fertile queen. The combs from various hives may be mixed up together in one hive and there will be no trouble about the workers fighting as they are all in a strange place and strange to each other; each one seems to be happy that she is admitted in peace. I now let them remain quietly about three weeks when the queens in the nuclei may be introduced to them, and the nucleus colonies united with them and if, as some assert, your workers are the best to winter, they are in the best possible condition to go into winter quarters. The advantage in building them up close by the side of the nucleus colonies is that they can be united with them, and the hive they are united to placed midway between where the two sat, and they are right at home and none need be lost." S. K. MARSH.

We would advise none but those of much experience to attempt this late work, lest mischief be done to the depleted colonies. Our own observation hardly coincides with that of Mr. Marsh, as the eggs thus taken from the parent hive at any season are almost invariably destroyed soon after being taken away.—ED.

Brown Co., Wis., Aug. 15, 1876.—"I have lately commenced raising bees. Had some practice several years ago with the old fashioned box hives, but had poor luck. Am now using the Langstroth with Hart's patent, with good satisfaction. The latter I think to be a great improvement and by far the most preferable. I intend to make this my principal business now and desire to acquire all the knowledge I can in the business. The climate being severe here in winter I desire to know the best plan for a store house for bees in winter. I have a plan of my own, but may be defective therefore I want the studied plans of others of more experience in the business. This being near the right time to begin preparations for building their store houses for winter, will you please furnish through the columns of the JOURNAL the desired information? CHAS. R. CLOUGH.

[A full answer to this inquiry would occupy several pages and then might not be perfectly satisfactory. A review of back numbers of the JOURNAL will show that there is a great diversity of opinion about the matter of wintering bees. Some advocate letting them remain on their summer stands, with or without protection; others keep them in cellars or in buildings above the ground, etc. Among the main points to be observed in providing any winter depository are these: to keep out the light, to preserve an even temperature always above freezing, avoiding sudden changes, and to keep the air pure. If you have been a careful observer and reader, your plan will probably suit your own special wants as well as any other.—ED.]

American Bee Journal.

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Secure a Choice Queen.

We will hereafter send a choice tested Italian queen as a premium, to any one who will send us *five* subscribers to the AMERICAN BEE JOURNAL, with $10.00. This premium, which gives a $5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send postpaid, a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

WHEN your time runs out, if you do not wish to have the AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

SEND POSTAGE STAMPS:—As silver takes the place of fractional currency, and something convenient to enclose in letters for small amounts is needed, we suggest postage stamps of 1 cent and 3 cent denominations. If folded carefully to about the size of the envelope, they will come even more securely than currency, and our business demanding large amounts of stamps, will render them as acceptable to us as fractional currency.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, OCTOBER, 1876. No. 10.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

GLEANINGS.

CARE OF EMPTY COMBS.—James Bolin says:

"I had several hundred frames of empty comb last spring, and as much of it was bought of neighbors who lost their bees last winter, and had left the hives containing it standing on the summer stands until I bought it, which in some instances, was after the weather became quite warm, it was full of the eggs of the moth-miller, and worms soon made their appearance. For some time I was at a loss as to how I could best arrange so many combs to fumigate them. I finally went to work and ripped out strips of inch lumber 2 inches wide for the inside pieces and 1⅛ in. wide for the outside ones. I rabbeted ⅛ in. square out of two corners of the 2 in. strips and one corner of the 1⅛ in. strips. I then nailed the strips in parallel lines, with the rabbeted sides up, securely to the ceiling overhead at such distances apart that the top bar of my frames would just pass between the parts left after the rabbeting was done. The frames hang on these strips the same as they do in the hives, are out of the way when not wanted either summer or winter, are easily put up or taken down by simply moving one end a short distance either way, and best of all, are in the most *comfortable place* when I close the ventilators, windows and doors, place a kettle half full of live coals in the room, and throw a pound of brimstone in it. In the above way by a half day's work I provided storage room for over 1,000 combs and it is out of the way and always ready for use when wanted."

STARTING WORK IN BOXES.—Novice says: Take a section, bees and all, from some stock that is working briskly, and put it in the centre of the one that will not work. We have successfully used this plan, excepting that we have always shaken off the bees. It may be worth while to try what difference it would make to take bees and all.

ITALIANS ON RED CLOVER.—Novice says his Italians have been working on red clover whilst the blacks were idle. Much capital was made of this point when Italians were first introduced, but there has been very little said about it lately, some having claimed that the Italians were no better in this respect than the blacks. We have our doubts whether the matter amounts to much practically but should be glad to hear from those who have had good opportunities for investigation.

IS HE A SWINDLER?—Lyman Legg says he received an order from Chas. Freed, of the American Honey House, Philadelphia, for 50 lbs. box honey as sample, which he sent, and has not been able to get pay or reply to any of his several letters. *Moral*—always inquire as to the responsibility of an unknown party before sending consignments to them.

REV. L. L. LANGSTROTH.—It gives us very great pleasure to note that this able veteran, to whom we all owe so much, is again so recoverd in health that he is able to take up bee-culture where he left off about a year ago.

BRTIISH BEE JOURNAL.

Gloomy reports and prospects were the rule during the early part of the season, but the opening sentence of the September number of the *B. B. J.* is:—"With this month will close a finer honey season than has ever been recorded in the annals of apiculture."

CAUSE OF SWARMING.—The editor, for whose opinions we have great respect, ventures a guess on this topic, which is at least worth considering. He says:

The cause of swarming is a problem which has puzzled the minds of investigators during many ages, and at the present day is a matter of speculation; but we have little doubt that the first suggestion of it to the bees arises from their hive or nest becoming over-heated. Excessive heat in a hive may be brought about by its being too much exposed to the sun's rays, by the over-crowding of the bees, by a sudden glut of honey, causing great excitement in the hive, or by the general heat of the weather; but we avow our conviction that heat is the exciting cause of preparation, and a continuance of it, with a fair amount of honey coming in while the days are lengthening, will surely cause a healthy colony to swarm.

We do not see the exact bearing of the last named condition; most of our own swarming come after the days cease lengthen.

Worker Brood in Drone Cells.

"I send you a piece of drone comb with worker brood in, for you to see that there are some curious freaks in the egg-laying of the queen." R. R. MURPHY.

This was a very clear case. Cells four to the inch, flat caps, out of which hatched nice young workers.

The case is very interesting, but is probably, as stated, only a "freak" from which no practical results can be directly developed. We are glad, however, to learn such freaks.

The Centennial Meeting and Show.

As the time is fast approaching, and as many enquiries are made, we will again give notice that the special show of honey and wax at the great International Exhibition of Philadelphia, will commence Oct. 23d and close Nov. 1st, 1876. Entry blanks can be procured of Capt. Burnet Landreth, Chief of Bureau of Agriculture, or of the undersigned.

In addition to the inducements offered by the Centennial Commission, the North-Eastern Bee-Keepers' Association offers $35 for the best and most meritorious display of comb and extracted honey and wax—conditions as follows: The honey and wax must be of fine quality and put up in elegant packages, such as are most likely to find ready sale at high prices. Other things being equal, the larger the display, the greater the merit.

The appointment of judges on this prize is retained by the Centennial Commission, the award being subject to the foregoing regulations.

The Association offers $25 for the best and most practical essay on "How to keep bees successfully during winter and spring." These essays should not treat upon the physiology of the bee, except so far as is necessary to explain instincts and management. This is suggested with a view to making them brief. With bee-keepers the ultimate idea of success is the attainment of pecuniary reward, and in deciding upon the merits of the essays, the judges will keep this idea prominent. Arrangements are being perfected to have a committee of three from different parts of the United States, to decide upon the best essay.

We certainly hope a lively interest will be taken in the matter of display so that American bee-keepers shall get the credit due them for the rapid progress they have made.

Upon this occasion the attendance of bee-keepers should be the largest ever seen in this country. The varied and magnificent display at the Exhibition; the show of apiarian apparatus and special show of honey; together with the satisfaction obtained from a fraternal shaking of hands and mutual interchange of ideas, of those long acquainted through printed mediums, should be ample inducement to make a long trip to this meeting.

The president of the National Society writes that he thinks the change in time advisable. In accordance with the arrangements and this opinion, we announce that

THE NATIONAL BEE-KEEPERS' ASSOCIA'N
will meet at Philadelphia, Pa.,
ON WEDNESDAY, OCTOBER 25th, 1876.

Bee-keepers will please report themselves at the department devoted to the display of honey, at 10 o'clock, A. M. After temporary organization, the Association will adjourn to some convenient, suitable place, for the use of which arrangements will be made.

We hope the special inducements offered for this meeting will be appreciated by bee-keepers generally, and we anticipate a large gathering—one suited to display the importance of our industry in this centennial year of American independence.

J. H. NELLIS,
Sec'y Centennial Committee of the N. E. Bee-Keepers' Association.
Canajoharrie, N. Y., Sept. 25, 1876.

The publisher of this JOURNAL expects to be present, and hopes that the show of honey will be good and the convention large and interesting. Many prominent bee-keepers have promised to attend and the meeting will, no doubt, be a success.

Board can be obtained in Philadelphia from $1.00 per day. The Boarding House Association, 721 Arch St., will, if requested, procure rooms and board at reasonable rates, and invites correspondence from those intending to visit the Centennial.

In the matter of the charge for admission, a fifty-cent note paid at the gate admits to grounds, and there is no further charge. A visitor can enter one building or all of them as he sees proper.

Let all who can, go to this Centennial meeting—they will never have the chance to attend another.

Barren Co., Ky., Sept. 16, 1876.—"I wish to know how the cheap honey, advertised in "Honey Markets" in A. B. J., would do to give bees to store for winter use? Some of our bees will not store enough to winter on, and we think of buying some for that purpose. I see that King's B. K. Text book speaks of cheap West India honey as being suitable for this purpose. What is it, and what will it cost? I see that some is advertised in St. Louis at 7@9c., and in Chicago as low as 8c. Will that kind of honey do for winter feed or stores?"

S. T. BOTTS, M. D.

[Extracted honey would be good feed, but you would hardly be able to purchase in Chicago at 8c., although if you were to throw some on the market you might not get any more. Strained honey and West India honey we should not want to feed. Indeed, we should rather not feed extracted honey without knowing where it came from. Sugar syrup is probably as healthy as any feed, but should be given at once so as to be sealed. It might be well to try placing over the frames dry lumps of crushed or block sugar.—ED.]

Our Premiums for Clubs.

A. G. Hill has sent us one of his Gas Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before January 31, 1877. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

D. A. Pike will present one of his beautiful Albino Queens—whose progeny will be one-half Italians and one-half Albinos—to the getter up of the *second* largest club of subscribers. The Albino will be sent, post-paid, May 1, 1877.

We will add the following:

For the *third* largest list, we will send a tested Italian queen in May, 1877.

For the *fourth* largest list, we will send 500 young tulip trees (4 to 8 inches high) in April or May, 1877.

For the *fifth* largest list, we will give a copy of THE AMERICAN BEE JOLRNAL for 1877, post-paid.

For the *sixth* largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 272 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once.*

☞We have received the catalogue of Geo. Neighbor & Sons, London, which is the most complete thing of the kind we have ever seen. Cuts, descriptions, and prices of the different hives and other articles are given, making the information very complete. We cannot but wonder at the offering of two or three kinds of hives without movable frames.

Mr. Harbison is now at the Centennial with a very handsome case of honey. The case alone cost $250. He has 3,000 stands of bees, and they annually produce about one hundred tons of honey.

☞Please look over "Our Clubbing List" before subscribing for *any paper.* It will pay you to avail yourself of the advantages there offered.

We will present 100 tulip trees to any person sending one or more new subscribers for 1877. See Club Rates on page 272. The trees will be from 4 to 8 inches high, and will be sent in November or May, as desired. Those desiring these trees must mention them when sending in subscriptions.

Foundation Machines.

EDITOR AMERICAN BEE JOURNAL: Seeing a request in your August number for reports about King's Comb Foundation Machine, I would say that I have seen and admired some specimens of the work of these machines, and pronounce the work just about perfect. The bases of the cells are exceedingly thin and the "shoulders" high, and all very smooth, well-formed and regular. Nothing better in this line could be desired. J. HASBROUCK.

We have seen specimens of the foundation from King & Slocum, but have no report from any one who has a machine. Does Mr. Hasbrouck know of any bee-keeper who has one, and if so with what success has the machine been used? The practical question for bee-keepers is, whether it will pay for each one to have his own machine so long as the foundation can be bought for some 60 or 70 cents per pound? Has any one bought a machine for his own use, and would he advise others to do so?

By an oversight the last "cut" on page 265 is printed bottom upwards, and in the seventh line of second column, the word *remain* should be "retain."

☞Read our list of Premiums for getting up clubs. We have extended the time to January 31, 1877—in order to encourage agents to work for the best premiums.

To all new subscribers for 1877, we will give the remaining numbers of this year free, or a work on bee-culture, as they may choose.

When writing for The American Bee Journal it is just as well to write on both sides of the sheet of paper and will save postage, It is usual to ask to have it written only on one side for a daily or weekly, but for a monthly it makes no difference, as we do not "cut up" any article for the printers. We would ask that all items of business, etc., be written on a separate sheet, however, as we file all such for reference.

NEW MUSIC.—"Angels hover o'er our Darling," by Geo. Hastings, price 40 cents, with splendid lithographic title page. The above song has been sung by well known vocalists with great success, and it bids fair to become a very popular song indeed. It is not very difficult. The music is sweet and plaintive, in perfect keeping with the words. It certainly ought to be found upon every piano forte in the land. Address, F. W. Helmick, Music Dealer and Publisher 50 W. 4th-St., Cincinnati, O.

Mrs. Tupper's Trouble.

The following telegram will answer inquiries concerning Mrs. T's whereabouts:

DAVENPORT, IOWA, Sept. 13.—Mrs. Ellen S. Tupper, who, about a year ago, forged notes to the amount of $13,000 on different parties in Iowa, was brought to this city last night, in charge of an officer, and lodged in jail. She had sold two forged notes to W. F. Ross, of this city, for which she was indicted.

From the Davenport *Gazette*, of the same date, we clip the following:

Last May the Grand Jury of Scott County found two indictments against Mrs. Tupper—one for forgery, and one for uttering a false note. It was not until the middle of August that Sheriff Leonard ascertained her whereabouts—in Lincoln Co., Dakota. Her home is a farm of 160 acres, with another 160 acres as a "timber claim." The officer arrested her and she is now in the county jail, awaiting trial.

It is a strange, sad case. It doesn't seem possible for her to escape conviction save by the plea of insanity. There are the notes, bearing the indorsement of men of prominence and wealth, who make affidavit that they never endorsed the notes.

CALIFORNIA HONEY.—We received a call from Mr. Chas. J. Fox, of San Diego, California, who visits Chicago on business for the San Diego Bee-Keepers' Association. The honey interest in San Diego County is a large and rapidly growing one; the estimated crop this year being 500,000 pounds of comb, and about an equal amount of extracted and strained honey. Mr. Fox has samples of both, which we consider very fine. The Association which was incorporated about three months ago under the laws of California, is a co-operative one, in the interest of the producers. They propose to repack and grade all the honey shipped, affixing certificates of quality to each case, in the same manner as Government revenue stamps. They have a store-house in San Diego where this is done under personal supervision of the officers of the Association. Arrangements have been made for careful handling on steamers and cars and for through shipment from San Diego to Chicago or other eastern cities, in car-loads, where the honey will be placed in the hands of commission merchants and agents for sale; the object being to sell direct from producer to consumer. The officers of the Association intend to establish a national reputation for San Diego honey, which they believe excells in color, body and flavor any other in the world. There is a very large area of honey-producing territory in Southern California, embracing Santa Barbara, Los Angeles and San Diego Counties, and as it can be produced there for less than the materials for making artificial honey can be bought for, the public may be sure that any honey shipped from that region is perfectly pure, and the San Diego Bee-Keepers' Association propose to guarantee all extracted or comb honey shipped by them. Mr. Fox intends to canvass our market and go to other eastern cities for the same purpose. Such societies as he represents are of great benefit both to producers and consumers, and we heartily wish them success.

Questions and Answers.

BY CH. DADANT.

Does it change the size and color of an Italian queen to mate her with a black drone? GEO. A. VAN HORN.

No!

I have three hives of Italian bees that have sour honey throughout, mostly uncapped, no brood and no eggs, but nice looking queens. What is the cause, and what will be the effect, and is there any remedy?
Marion Co., Iowa. A. N. CROSBY.

I cannot tell the cause, I have never seen sour honey in my hives. If the bees are compelled to eat this honey, their death is certain. Remove it carefully and if their provisions are insufficient, replace it with combs of sealed honey. This sour honey can be used to make good vinegar.

I have 45 swarms in Langstroth hives. They commenced robbing this morning and I can do nothing with them. They robbed one another early in the spring. I had several killed clean out. G.

When robbing has just begun, you can stop it by contracting the entrance of the hives, and by shutting up the robbed hives at night, opening the entrance only when the guardian bees are on the alighting board, in the morning. If by such means robbing is not stopped, ascertain if the robbed colonies have a laying queen, and give them brood, young and hatching brood, and young, pure Italian bees.

I have often stopped robbing by giving a few young, pure Italian bees to the robbed colony. If there are no queens nor young brood, and if the stock is feeble, or if it is late in the season, do not try to save it, but break it up, giving its bees to some other colony. Before uniting the bees take care to ascertain that there are no robbing bees left in the hive. To that end, take out after sundown, all the combs, one after another, and shake the bees in front of the hive. The robbers will return to their colony and the robbed bees will remain alone.

If all the means above indicated do not succeed, ascertain which are the robber colonies. These colonies are working while the others sleep. Then exchange places, putting the robbed colony in place of the robbers. In every case it is indispensable to contract the space in the robbed hives till all the combs are covered with bees. Sometimes, when the robbed bees seem accustomed to the robbing, it is necessary to carry the robbed hive in a dark cellar for 2 or 3 days. The hive should be put into the cellar at night, and put back in the morning, using the necessary preventions as stated above. Nine times out of ten the bee-keeper is the cause of robbing by letting his bees find sweets in time of scarcity.

Letter from Bohemia.

A letter from Rudolf Mayerhoffer, Esq., editor of the *Bienenvater*, at Prague, Bohemia, Austria, states that the general meeting of bee-masters at Bohemia was held in Tetschen on Wednesday, Sep, 6th; and the meeting of the German bee-masters was held at Breslaw on Sept. 14th. He wishes that American apiarists could have had on exhibition there some of the products of their apiaries. He remarks that honey boxes are unknown in Austria and Germany.

He states that the French say that Americans do not believe in, or use movable combs to any great extent, and asks if this is so. It may surprise some of our readers to know that among French apiarists there are two schools, the *mobilistes* and the *fixistes*, the former advocating movable and the latter fixed combs. In this country a bee-keeper who should use anything but movable combs would be considered very much behind the times or in some way very peculiar. If there is, in this country, any man who is keeping bees to any extent without using movable frames, he is certainly not widely known among the fraternity. It would be somewhat natural that this should be so, as movable frames in their present practical form were the invention of an American—the Rev. L. L. Langstroth — whom apiarists, the world over, delight to honor.

The Value of Italians.

Moore's Rural New Yorker endorses an article written by a correspondent of the London *Journal of Horticulture*, in which the writer speaks in not very flattering terms of the Americans as exaggerating the value of the Italians or Ligurians. He says:

"And even in America, in a convention of bee-keepers, the question of the superiority of Ligurians was discussed by the most able men of that country; and, so far as I could judge, the bulk of disinterested evidence was not in favor of Ligurians, and objections were made by honest men to their bee journals being edited by dealers or interested parties.

"I am visited by respectable bee-keepers from all parts of the country, and those who keep Ligurians, as well as those who live where they are kept, tell me that they are no better than common bees. I am not prejudiced against them in any way, and shall be pleased to see evidence of their superiority from any trustworthy quarter; but nothing but facts are admissible as evidence. When these are produced I will speedily rid my garden of lazy bees, as my object in bee-keeping is profit. We shall be abundantly gratified if satisfactory evidence be presented to the readers of this journal and the bee-keepers of Great Britain that a superior bee is among us. In my search for evidence of the superiority of Ligurian bees I have been unsuccessful for ten years."

We are aware that exaggerated statements have been made as to the value of Italians, and will humbly receive whatever reproof our English cousins may choose to give us for our tendency to brag. But we are surprised that a paper for which we have so high estimation as we have for the *Rural New Yorker* should virtually endorse the statement that Italians are no better than black bees. If in any convention the matter was discussed by the most able men of this country, and the bulk of disinterested evidence was not in favor of Italians, then we failed to read aright the reports.

The editor of this journal is interested in the Italians only so far as he is interested in getting stock that will give him the best yield, he having only honey to sell, but he would pay a very high price for an Italian queen rather than keep only black bees. We feel safe in making the assertion that not one in a hundred of the intelligent bee-keepers of this country who have tried the Italians, would be willing to go back to the common black bees.

If there were no other advantage but the single one of keeping the hive free from the moth, this would be enough to place the Italians far above the blacks.

Advice to Beginners.

Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain the first Volume of THE AMERICAN BEE JOURNAL. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch. We have a few copies to dispose of at the following low prices: in cloth boards, $1.25; in paper covers, $1.00, postpaid.

Many of our best apiarists say they would not sell their back volumes of THE AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarists.

☞The Abbott Pocket Microscope, advertised on another page, is an instrument of great usefulness for examining flowers, seeds, plants, insects, etc. It is in a convenient form for carrying in the pocket and thus be ready for use on any occasion when wanted. We will send this microscope to any address by mail, post-paid, upon receipt of the manufacturer's price, $1.50.

Biographical.

Wilson H. Andrews

Was born near Lebanon, Wilson County, Tennessee, October 15th, 1830. He was raised at farm work and held by his father till in his 21st year, when he left the farm and went to school and taught school alternately till 1856, keeping about even in financial matters. On the 3d of September, of that year, he married Miss Sarah A. Green, also of that county. He then entered the law school in Cumberland University at Lebanon, where he graduated June 28th, 1858.

On the 18th of the following August he left his native State to seek his future in the State of Texas, soon arriving at the town of McKinney, in the county of Collin,

Texas, without money. He resumed teaching and continued one year, then began the practice of law, at which he did well for that country and time. In 1862 he was elected District Attorney for his judicial district, and in 1864 was re-elected. On the 10th of July, 1870, he was appointed Judge of the 11th judicial district of Texas, which he held till the 17th of April, 1876, giving general satisfaction. He has resumed the practice of the law.

As soon as Judge Andrews acquired sufficient means he began to show great zeal for agricultural and horticultural pursuits, and soon became quite an amateur. He gives much attention to the cultivation of grapes, Jersey cattle and Italian bees, hence his place is called, "wine, milk and honey," but another word is necessary to give a correct idea of his place, to wit: lard, as he has had unequaled success with the Chester White pig.

In the year 1866 he began bee-culture with the Langstroth hive and black bees, he read all the works on bee-keeping, and in 1868 got up a correspondence with Mr. Langstroth, from whom he purchased an Italian queen, but the fates seemed to decree that none should get through alive—both parties worked faithfully till May, 1870, before success crowned their efforts, and a fine queen was received alive. Mr. A. had paid out up to that time, $48.50, and the trouble and anxiety of Mr. L. must have been worth five or six times the price of the queen—$10.

In September, 1870, Judge A. got a queen from Mr. H. A. King, of New York, brought by hand of a friend—Mr. Z. E. Ranney; she bred some three, some two, some one, and some no yellow band workers, but the black bands of all her workers had a very unusual quantity of hair on their edges and it was as white as cotton, that with a jet black head made them very beautiful, especially those that had all black bands.

He has bought thirty-one tested Italian queens from the best of breeders, but thinks he never got but four pure ones, for which he accounts on the score of "fashionable Italians." He prefers to darken them to his own taste, as it takes but little of the *smut* to do on his, but he holds that about 7-8 and 15-16 Italian, if the taint comes on the mother side, are better for box honey than pure Italians, or lower grade Italians, or blacks. He does not believe that "the matter of color can be overdone," but does believe that color affords the only infallible test of purity of Italians.

In 1869 he adopted the American hive, slightly modified, of which he now has 212, filled mostly with pure Italians, but the others with what he calls smutty or fashionable bees.

Judge A. never cultivated bees for profit till 1875, and most of the labor in his apiary has been done by others under his direction. In 1875 he got about 6,000 pounds of honey, which netted him about 18¾ cents per lb. This year he has not had a pound of surplus and the honey season is past. He attributes the failure to the wet weather in May, June and July.

W. R. GRAHAM.

Correspondence.

For the American Bee Journal.

Bee Notes from Central New York.

I was unexpectedly called upon the other day to go and look over a farmer's bees, ten in number of hives, he told me they were not doing anything at all, that they were all black or the old kind of bees. On looking them over I saw that he had a miserable lot of queens, some so old that they produced but few eggs, like an old hen that had scratched up the things in the garden for the last six years, meaning they were nearly so old as the old hen; and some little inferior looking queens that I should judge were from third and fourth swarms, which the old man admitted. I have not kept any black bees for some years and was somewhat surprised to see the difference in gathering honey between the Italians and the little blacks. I prevailed on the old man to destroy a couple of his poorest old black queens and introduce two Italian queens, no matter of whom he bought them. I named a few reliable queen breeders, such as Mr. Hetherington, Mr. Root, on the Mohawk, and Mr. Nellis at Canajoharie. He wanted to know if he could get them for 25 cents a piece. I told him not to impose upon them so as to ask them to let him have them for one-tenth their value. I saw at once that a dollar looked larger in his eye than the hind wheel of a wagon, but he was willing to admit that the best wheat he ever raised came from the Mohawk flats. I then asked if he paid the price they asked for the seed. He said yes, then why not pay the price for the queens? That was a sticker for the old man. I told him I would introduce them for him free of charge. I discovered he was a little tight, but had not drank enough to make him liberal-hearted. I got into my wagon to go home, when he called me back and had concluded to have me furnish a couple of queens for him if I would let him have them cheap. I introduced two for him the forepart of June. About a week ago I visited the old man and opened the hives the queens were put in. He was surprised to see how much more honey they had gathered than the little blacks, in fact they were consuming the honey they gathered from clover and other flowers to feed their brood, the dry weather had told too plainly on the blacks.

So it is with some people, they would jump out of their shirt, if it was not buttoned tight around the neck, to pick up a cent, and not notice a dollar when it was within their reach, or would pay 25 cents for some little child's Sabbath-school paper, instead of paying two or three dollars for a good journal or family paper. The little Sabbath paper is all right in its place, so it is with little inferior queens as some bee-keepers save, although I must admit I have had good prolific queens from some small ones, but they are not always to be depended upon. If queen breeders, or farmers (I cannot call them queen breeders) would give a little more care and attention to their bees and not allow them to send out but one swarm to each hive, their bees would be stronger and do far better. My bees are doing well and I think they will as long as I am here to take care of them, when I am gone and the bees fall in other hands, I do not expect them to do as well, unless my youngest son had care of them; he understands them very well.

I hear of complaints all around me that bees are not doing well. I called to see one man that had but five left last spring out of twenty last fall, he told me they died and had plenty of honey in the hives—old box hives. I asked to see the old hives. On examination it was plain to be seen that they had filled their brood comb all but a small circle, so there were but few bees raised late in the fall. His wooden boxes were ten inches high and narrow, he said they would not work in them. I told him they were not high enough, he ought to have had a length of stove pipe and put them on. I mention this to see how foolish some people are. There was a call again for frame hives and the extractor, and thinking and reading and having some peoples' thoughts go a little farther than beyond their own farm. One man told me he had good luck with his bees when his first wife was living but since she had died his bees had not done near so well. Perhaps his first wife held on the ax while he turned the grind stone. And so it is this day, some men are asking too much of their wives, to take care of the bees and the implements to be used on the farm. As quick as they miss the half bushel or any farm implement they rush to the house and ask the wife where it is. Now if any man wants to keep bees and profit by them, he must look to them often and as soon as he discovers anything wrong with a hive, if they do not do as well as the rest, open the hive and find out the trouble and apply the remedy and not let them take care of themselves.

There remains a great deal yet to be learned about the honey bee. There is a vast difference in the prolificness in queens. If you want your bees to do well you must have them strong, and a goodly number of them in each hive before the honey season begins, so they will get their share of the honey, that not so much of it is lost or gone to waste. Most of mine were strong by the 1st of May, and I did not even feed any meal or honey to stimulate them. My boys have already sold over 400 lbs. of nice clover honey and have over 200 lbs. to deliver tomorrow, Aug. 4. They are working finely on clover yet, that is sweet clover, the white clover is past for this season. Soon buckwheat will be on hand.

ABM. L. STANTON.

Schoharie Co., N. Y., Aug. 3, 1876.

For the American Bee Journal.

King Birds.

In the July number you call for information relating to the king bird and its habits. As they are the worst enemy that I have to contend with in the bee business I will state some of their habits and my observations and treatment of the birds. They make their appearance here in the spring, about the 1st of June, and the middle of the month they commence to build their nests. Those in close vicinity to my apiary I tear down and destroy. I have the worst trouble with them when the young birds commence to fly. The old birds will bring them from a distance and locate them in the vicinity

of my hives to teach them to catch on the wing. Then I take my breech-loader and practice on the wing, too. I have killed and dissected them and found the honey bee in them. Their general habit is to sit on the top of some post or mullen stalk on the watch for the loaded honey bee on her bee-line for home. His sharp, quick eye is on her, in an instant he is in the air on the line, you hear his bill snap and the honey bee with her load of honey is no more. The honey bee when loaded flies lower and slower than one that is empty, consequently they fall a more easy prey to the birds.

My bees have done very well so far this summer. I get more honey in a dry, hot, than I do in a cold, wet, summer.

J. W. CONKLIN.

Suffolk Co., N. Y., Aug. 8, 1876.

For the American Bee Journal.

Scraps from Illinois.

MR. EDITOR:—In reply to your query in regard to controlling swarming, I would say that I work exclusively for extracted honey, as do all of the bee-keepers in this place. I now have 20 very strong stocks—over 1,000 lbs. of honey in the hives—have sold 3 and bought one. Had 11 light stocks in the spring with not a pound of honey to go on when flowers began to come, but at swarming time my bees were very strong, as I had plenty of empty comb to work with. Have taken to date 304 lbs. of extracted honey, and with buckwheat just coming into bloom, heart's-ease (smartweed some call it), white clover, rape, and other fall flowers, we expect a good fall harvest.

I have heard, but have never known of an Italian swarm coming off without starting queen cells, and am still in doubt about a natural swarm coming off without it. Queen cells are sometimes so carefully concealed as to be hard to find except by careful examination.

"Is a wet season best for honey?" I answer yes, most assuredly, at least that is the case with us, for with a wet season we get a good crop of honey early as well as late in the season, while in a dry season we get no more honey than will keep up brood rearing, till the fall harvest. But our honey resources may be different from those of other localities. WM. M. KELLOGG.

Oneida, Ill., Sept. 5, 1876.

For the American Bee Journal.

Marks of Prolific Queens.

MR. EDITOR:—Please let me ask if there are any established points in Italian queens to indicate one as a prolific breeder any more than others, as all must know that some are better layers than others. I have had several queens that could not lay an egg for several weeks, although they tried hard to do so as they went through the motion very often. I also have had, and now have, one queen that lays eggs plentifully but none ever hatched. I want to hear through your paper what points, if any, are known that will show the superior qualities of laying capacity of one queen over another. I have thought that I have seen a difference in the make or shape of queens, as there are certain marks in cows that show a good milker and other marks to show a good breeder, so with all domestic animals from a dog to a horse. Why not the same laws to govern bees? Now I don't want to puff my observations on the stature of queen bees but if they are new I am willing to give the same to any who are in want of them.

I also want to know if any one has observed any union of sex in one bee. On or about July 10th, 1876, I had a queen cell to hatch out in nucleus No. 13 but no queen there. I found a bee that was not a queen worker or drone, it had legs like a queen, head and wings of a worker and abdomen of a drone. I thought of caging it and sending it to you as a specimen of bees, as you are wanting such at your office, but I waited several days to watch her motion and see more myself. It had no sting, as I tried to make it show it, and see whether it would go out to meet the drones. About five days after it was hatched it was not in the nucleus. Whether it went to meet drones and was lost, or was killed for a drone I can't say. I will say that there were no drones in the nucleus and no drone cells. This bee was the size of a common drone in body but lacking in size of head and wings to be a drone, her motion on the comb was that of a worker. F. R. DAVIS.

Noble Co., Ind., Aug. 7, 1876.

[We know of no special marks by which, at a glance, the prolificness of queens may be determined. If others do, we shall be glad to hear from them.—ED.]

For the American Bee Journal.

Another New Experience.

I believe it makes but little difference how long an individual may have been engaged in bee-culture, or however close attention he may have paid to the journals or to standard works on apiculture, he will frequently find his bees doing something he never heard or dreamed of. Here is a case in point.

About the first of August one of my best black stocks threw off a very large swarm. I was away from home at the time, but my wife, who is quite a bee-ist, took the matter in charge. The bees circled around a few minutes and then returned to the hive. On looking on the ground in front of the hive she found the queen, and taking her with about a quart of the bees, put them in a small nucleus hive and set them on a new stand a few feet off. In regard to this nucleus hive, more anon. I did not open the hive until about ten days after they had swarmed. I found considerable capped brood but no eggs and no larvæ, and no queen—lost I suppose in her flight to meet the drones—but in her place I found three queen cells, two capped and one just ready to cap. One of these looking somewhat suspicious, I picked the cap off and found it empty. The other capped cell I found suspended from the bottom of a piece of drone comb in the lower corner of the frame. It occurred to me from the fact that it was so near the bottom of the hive that the enclosed queen might have become chilled as we had had two or three quite cool nights. I opened it and found it as I expected—a queen nearly mature, but dead.

Now this drone larva must have been

some days old before the queen cell was constructed over it, and the question occurred to me, what would she have been had she hatched out; would she have been a drone-laying queen, or would she, as I think, never have become impregnated, and never have laid an egg that would hatch, or do such queens always die in the cell? I think I have seen such a statement somewhere. I need some light on the subject. The remaining queen cell I gave to a nucleus, but on opening the hive next day I found it destroyed. I substituted another from a nucleus Italian stock and it has given me a fine large queen.

Now for that nucleus hive mentioned above. They went to work as any regular swarm should, until last week they left the hive very unceremoniously and after circling around a short time, returned to the hive. The next day they did the same thing again, and I then thought it about time to interfere. As soon as the bees were about all out I opened the hive and found brood in all stages of development down to the egg, and a few very uneasy young bees on the combs. I closed the hive again and waited for the bees to return, which they soon did. When they were about half in I saw the queen strike the bottom board and enter the hive, but they were uneasy during the remaining portion of the day, and in the evening I opened the hive again and found a queen in a hug. On looking over the combs I found another. I caged the hugged queen and gave her to the old stock that had cast the swarm, but the query is, where did that extra queen come from? as I have missed none from any of my stands. I thought she might have hatched from the cell that I found in the old stock capped but empty, but it seems hardly probable.

San Jose, Ill. O. W. SPEAR.

[Within ten days after swarming a queen would not generally be found in the old hive, unless a young one just hatched.

A drone larva in a queen cell will never develop anything but a drone, but such a drone never hatches out; always dying in the cell. A perfect queen may, however, be raised in a queen cell suspended from the bottom of a drone comb, as it by no means follows that a larva in such a cell must be a drone larva.

As to the extra queen in the nucleus hive, if the hive was empty when the bees were put in, a queen probably entered from some other hive or nucleus, or a miniature swarm may have entered from another nucleus.—ED.]

For the American Bee Journal.

Bee Notes.

The season is now drawing to a close and it behooves us to look well to our pets—the busy little bees. They have worked hard for us all the long summer days and will now need attention to prepare them for the winter months. I always examine my stocks during this month, and before the honey season closes entirely. I do not believe in disturbing my bees after frosts come. Some hives that have swarmed late will yet be queenless, and as there are less drones flying now the queen will sometimes fail to mate. I give my stocks that have no laying queens some brood from another hive, this makes the matter doubly sure. Be careful about extracting from hives now, I do not extract any. As soon as the season closes, contract the entrance so that mice cannot possibly enter. They will now be in condition to leave till removed to their winter quarters. Much has been said, pro and con. as to the value of clipping the queen's wings. I clipped four choice ones this season. They have all been superseded but one, and their stocks persisted in hanging on the hive doing nothing till young queens were hatched, though there was plenty of room in the honey boxes. I have never clipped before and do not think I shall again. My bees have done well this season. Having sold all last fall, I began this year with four stocks from Rev. A. Salisbury, they have increased to ten and have made me something more than 400 lbs. of honey, of which 175 lbs. is box, balance extracted. J. V. CALDWELL.

Henry Co., Ill., Sept. 1, 1876.

[Is it at all certain that clipping the wings had anything to do with the queens being superseded? May they not have been old queens? We usually clip our queens as soon as they commence laying, and have no trouble about supersedure.—ED.]

For the American Bee Journal.

Bee-Killers—Asilus Flies.

To M. H. ADAMS, Fort Ann, N. Y.—The large two-winged flies which you have observed only within the last two years and which have the pernicious habit of killing bees, belong to an order of *Diptera* or two-winged flies, popularly known as robber-flies, or Asilus flies. They may be readily recognized by the stout thorax, narrow, strongly-nerved wings, bristly-hairy face and legs, and more especially by the long, slender abdomen tapering posteriorly to more or less of a point. There are several species all of which are, in the perfect state, fierce cannibals. Among these the Nebraska bee-killer (*Trupanea Apivora*, Fitch)—which derives its popular name from the State in which it was first captured—occurs very generally over the United States, proving in many localities very destructive to the honey bee. This fly is about 1⅛ inches in length, of a yellowish brown or yellowish gray color with the head, thorax and legs clothed with bristly hairs. It preys almost exclusively upon the honey bee, pouncing upon the latter in the air with lightning-like rapidity and alighting with its prize upon a leaf or upon the ground, pierces the thorax with its strong proboscis and proceeds to suck out the vital juices.

A very similar, though somewhat larger, species occurs in Missouri, and probably throughout the West, viz., the Missouri bee-killer (*Asilus Missouricnsis*, Riley) which has the same rapacious habits and should be as mercilessly destroyed wherever found. These flies are so strong and swift of flight that it is difficult to capture them on the wing, but when they have settled with their prey they are less wary and may easily be

taken with an insect net. One should avoid grasping them in the hand, as the powerful proboscis is capable of inflicting a sharp sting.

But little is known respecting the preparatory stages of these Asilus flies. The larvæ are footless and live in the ground and such as are known are strangely enough vegetable feeders. The larva of the Silky Asilus (*Asilus sericeus*, Say) was discovered by Dr. Harris, feeding upon the roots of the rhubarb plant. C. V. RILEY.

For the American Bee Journal.

"Ox-Cow" Queen Bees.

MR. EDITOR:—I was a keeper of bees,and not without enthusiasm, for some 18 years, from about the year 1840. I read every book on the subject that I could obtain, and most earnestly and carefully studied the ways and habits of this fascinating insect, in my dozen hives. Much less was then known than now, and the hives then used were less favorable to the investigator than those with the movable frames, now affording so satisfactory facilities to the apiarian student and manipulator. Nevertheless, something was learnt by use of book and hive, and the experience of others, and I ventured, after a while, to write and deliver a lecture on the "Habits and Management of the Honey Bee." Among the places at which it was read was the Representative Hall of the State House in Boston, before the Massachusetts State Agricultural Society, a portion of the lecture being devoted to the anomalous,but now universally known fact, that bees when deprived of their queen or mother-bee will, by some process or means as yet unexplained, so operate upon a worm or larva, that left untouched, would become a worker or barren female, as to render her organs ot reproduction fertile, the change produced even affecting her shape and size, as well as her after habits of life.

A writer in the Maine *Farmer* made a report (though with some inaccuracies) of my remarks, calling them "new, interesting, and instructive;" but very soon afterwards the editor of a Portland, Me., paper, under date of April 11, 1842, assailed both lecture and lecturer with a savagely severe and denunciatory criticism, calling the former "a bungling piece of nonsense, of a contemptible sort, and full of absurd statements," and declaring the latter to be "wholly ignorant of the subject upon which he undertook to enlighten others." Specially severe was he upon my statement that a queen bee can be manufactured out of the worm of a working bee or neuter. "The thing is as impossible," he added, "*as it would be to make a cow out of an ox*," and "nothing can exceed the contemptible folly of book-worms in the silly stories of the ancients about making queen bees out of workers." What ancient writers treat of this subject the critic did not say. I made no reply to this onslaught, preferring to be guided by Solomon's advice (Prov. xxvi. 4), and to let time determine truth.

This reminiscence came to my mind as I stood, a few days since, in the apiary of Mr. H. Alley, in Wenham, Mass., and witnessed the wonderfully skilful and truly scientific operations of this most expert bee-keeper. He makes a business of breeding queens, selling them when ready for market, and sending them in little boxes adapted to the purpose, to purchasers in all parts of the country. He and many other apiarists are actually accomplishing the thing declared to be "as impossible as to make a cow out of an ox." He has, this very centennial year, sent to customers more than 750 of these "ox-cow" queens, and will sell more before the close of the season.

As is well known, the Italian bees, imported into the United States about 15 years since, are the favorite of very many of the present bee masters. They were not known here in my bee-keeping days (1840 to 1858), we having the English bee imported by the early colonists, a much more pugnacious insect, and said to be less accumulative of honey than the Italian, while the Italian queen is said to be more prolific of eggs,and therefore a hive of Italian is more densely peopled than a hive of English bees.

I well remember how difficult it was, in former days, for those who knew only the English bee, to understand the poet Virgil's description of the *queen*, he, however, erroneously calling it the *king*. I translate the passage from his Fourth Georgic:

Glowing with YELLOW scales and DAZZLING hue,
His body marked with GOLDEN bands we view—
If safe this King, one mind abides in all—
If lost, in discord dire and feuds they fall;
Destroy their work, waste all their gathered store,
Dissolve all bonds, nor are a nation more.
If he but live, ruling the glowing hive,
All are content, the fertile race survive.
Him they admire, with joyful hum surround,
While labor thrives and honeyed sweets abound.

Now we know that the poet's *king* is a *queen*, or more truly a fertile mother-bee, and taking the Italian bee, of which Virgil wrote 2,000 years ago, she has a *yellow* body and not a *black* one like the ordinary queen of the English and American hives. I was very much rejoiced when I first saw an Italian queen, seeing by the facilities afforded in Mr. Alley's apiary more queens in a single hour than I had seen in all my own bee-keeping experience. It was a real apiarian revelation, and I only regretted that it had not come to me at an earlier day, when fitting boys for college, I encountered this description by Virgil, then wholly obscure and inexplicable. I do not now recall any explanation of the difficulty by any annotator of the Georgics, even Martyn, the learned Professor of Botany in the University of Cambridge (England), in his admirable translation (1740–41), being wholly silent on the subject. Now Virgil's description is intelligible, as well as wholly accurate. HENRY K. OLIVER.

Salem, Mass., Aug. 29, 1876.

For the American Bee Journal.

A Visit to a Michigan Bee-Keeper.

I arrived at Dowagiac and enquired for Mr. H's apiary. On my arrival there I was met by Mr. H., and was made welcome, as soon as he found I was interested in bees. By the way, Mr. H. is "chock full" of bee notions and has some new and grand schemes for bee-keeping, which from his extensive experience he is confident will become universally adopted very soon. I remarked you have a fine apiary here, Mr.

H. Oh! yes, I used to think so, but since I have perfected my new scheme for bee-keeping, I intend disposing of all of my old fogy "fixins," such as movable comb hives, honey boxes, Italian bees, section boxes, frames, honey extractors, wax extractor, etc. Why, just come over here and see my new hives and ground for my new apiary. I went and remarked, why, Mr. H. you are returning to the old box-hive system. No, sir, do you not see this hole in the bottom of the hive? Now that just fits on the top of that stake—placing the hive on top of a stake about two feet from the ground. You see that forms a pivot and the hive turns on that, so the entrance always faces the sun. But, Mr. H., how is that done? Do you not see I have this large box nailed fast to the top of the hive? Oh, yes, I suppose that is for surplus honey. Mr. H.—no; I fill it with dirt and plant sunflowers in it. They face the sun in the morning and move around until sunset, thus keeping the entrance facing the sun all day.

I suppose that row of post-holes running past the ash-house is for putting up a fence to protect your bees? Mr. H.—No; they are my sulphur pits for taking up bees in the fall, and that little house is where I keep my brimstone. I don't intend to fence in my apiary with a board fence; do you not see I have planted out a lot of hollow trees? As soon as they get large enough I intend to throw away my box hives and keep bees more natural. But do you not think those trees too close to each other? Mr. H.—Yes; but you see I will have to cut some every fall for honey, and that will thin them. How can you sell bees if you have them all in trees? Mr. H.—I will cut up the hollow trunks of the trees I "fall," make gums of them; and use them for swarms to sell. Do you see I will grow my own hives in that way? Do you not mash your honey in "falling" your trees? Oh, yes; but honey is not worth much now; one pound of wax is worth three of honey; so I just put it all into a kettle, boil it and the wax all raises to the top, I let it cool, lift off the wax and dip out the honey which is thick honey, not thin, sour, extracted stuff, worse than sorghum syrup. Thus ended a very pleasant visit with Mr. H.

A CANADIAN BEE-KEEPER.

For the American Bee Journal.

A Protest.

On page 219 of the August number of the JOURNAL I find an article taken from the *N. Y. Grocery and Provision Review*, which to my mind militates against the interest of every practical apiarian in the land. I refer more particularly to this paragraph in the article alluded to:

"Why should not our governments—national and State—stock our fields with the 'busy little bees' as well as our streams with fish?"

Now in the matter of fish I am not directly interested, but in that of the "busy little bees" I am. Of course it is to the interest of publications of this class to bring as much of an article as possible upon the market and thus cheapen it, but in this case it is certainly detrimental to those who have devoted their best years probably to the cultivation of the honey bee, thus depriving them of the fruits of years of toil.

Did you ever see an individual, engaged in any branch of business, no matter what, throw his influence in favor of our governments—national and state—opening in every town in our country a business in direct opposition to that in which he is engaged? For instance, did you ever see a man engaged in the grocery business who would be willing to have the Government start a grocery store in his town? I think not. It is not human nature. But laying aside the fact that the above publication advocates this idea, let us look a little farther, and we find men engaged in bee-culture who, unlike the grocerymen or dry-goodsmen or any other man, will urge upon clergymen, and upon widows, and in fact upon men and women of all states and conditions in society, the necessity of engaging in bee-culture if they would line their pockets with greenbacks and heap up riches against the day of governmental bee-culture. But we find almost invariably that such men have some kind of a patent or other that they wish to dispose of, and the more men and women they can prevail upon to enter the lists as bee-keepers, the more they will realize from the sale of their patents.

Now this it seems to me is all wrong. By far the greater number of apiarians in the country are not interested either directly or indirectly in these patents and should not be made to suffer for it.

The demand for honey is not at present equal to the supply and consequently low prices prevail. What will be the condition of things when our Government starts a bee shop in every field, and but one in fifty are prevailed upon by our enterprising patent venders to embark in an enterprise in which it is all income and no outgo according to their showing.

Now I do not wish to be understood as throwing a wet blanket upon the ardor of any one who is about starting in the business. Such will find in time that every cloud has its dark side as well as its silver lining; but if any individual, of his own free will and accord, and in the presence of certain facts which he will find out sooner or later, wishes to embark in the business, I can bid him God speed, but would for his own good say, "Don't believe all the good things you hear of it. Every business has its ups and downs, and if you will pay close attention to our bee journals I think you will find as many downs as ups recorded by men far advanced in the science too. It is not all gold that glitters." I think I may say of myself, and I don't want to seem egotistical, that I have in the main been successful, but where one has succeeded hundreds have failed.

Take an apiary properly located and handled by a man who understands his business and there is a fair chance of success, but the man who without any practical knowledge of the business embarks largely in it will probably be obliged to step down and out before he realizes any of the profits said to accrue to those who have but to start and be made happy.

San Jose, Ill. O. W. SPEAR.

[We hardly suppose that any one contemplates the plan of having the Government establish apiaries in all the towns of our country for the purpose of supplying those

towns with honey or bees. There are, however, certain kinds of aid that the Government can give to different industries that will be of benefit to them. The proprietors of a steamboat line on the Mississippi would hardly feel themselves benefited by the establishment of a rival line owned by the Government, but would be very glad to have the Government interest itself to improve the navigation of the river. Farmers do not object to the experimental gardens at Washington, and an experimental apiary established at one or more points would hardly lower the price of honey very materially, bee-keepers themselves having the full benefit of all experiments made. Just now, it would be quite convenient if the Government would import and try any new varieties of bees which private enterprise have as yet left untried on account of the expense. We confess, however, that we do not feel very sanguine about any great help from the Government, and, indeed, we do not think much aid is needed, but we do believe that a little intelligent assistance might be productive of good.—ED.]

For the American Bee Journal.

Prevention of Swarming.

MR. NEWMAN:—The JOURNAL is received promptly at the beginning of the month; by the way the advent of THE AMERICAN BEE JOURNAL is looked for with more interest than that of all the others combined, as the editor is not interested in the sale of all kinds of new-fangled bee fixtures, to worry the small change and the patience out of the poor innocent bee-keepers. When we lost Mr. Wagner we mourned him as one whose place to us would never be filled, but the more we know of Mr. Newman the more we feel that Mr. Wagner's mantle has fallen on worthy shoulders. This with the idea that you are the editor of the AMERICAN BEE JOURNAL as we have recently seen no other name to fill that post.

On page 210 you ask me to tell what means, if any, I use to have so little swarming in such strong stocks. That is a very difficult question to answer so as to make it intelligible to the great mass of readers. If I were to say that it is more in luck than any thing else, perhaps it would be nearer the truth. Still there are facts and causes when combined that will to a very great extent prevent swarming; while there are other causes that I believe are sure to raise the swarming fever. First then we will take the preventives. I consider shade all important, the shade of large trees is best, if we haven't those we must arrange artificial shade. When bees select a home naturally I believe they generally choose a tree in a shady spot, or if it is not shaded it is high up in the air away from the reflected heat of the earth. By the way, has any one ever known a colony of bees in such a position to swarm out of their tree when they had room to build comb below the cluster? I think the idea entirely opposed to nature of placing bees out exposed to the full rays of the sun and the reflected heat of the earth, hence I have adopted this season the stand two feet high, as described in Hunter's Manual, and think I will save more bees from toads and skunks than I will ever lose from dropping on the ground, and don't have to break my back in stooping to handle brood and boxes. Ventilation is important, hence I make the entrance of all hives ¾ inch high by 12 inches wide, with ventilator for hot weather same size at the back; or if side-box hives they have wire cloth ventilating holes under the back boxes—these hives have their entrance at the side of the comb, under the front boxes. Wire cloth ventilators in such a position will seldom be glued up, while if under the brood they will generally be waxed up tight. The entrance stick is simple and cheap, and closes up to 3 inches wide or to a single bee, and ⅜ inch high for fall and spring when there is danger of mice getting in.

Plenty of box room is important, as close as possible to the brood and with free access (plenty of large holes in the boxes) to the boxes. The side-box hives, or those that take both side and top boxes, have swarmed less than the top-storing hives this season, because we could give the bees more box-room. As it was impossible to get more than two tiers on a hive at one time, as the bees would generally climb up and finish the upper box before commencing on the lower one, and as the side-box hive takes two tiers on top, it had the advantage, and hence bee-keepers say this is a side-box year. But taking one season with another, I consider the top storing hive the best as it takes less labor to run it. Tiering up is important to prevent swarming, as it gives room just where it is most needed and will be the soonest used, and I wish to say here that I consider it would have been an utter impossibility to have run my bees with as little swarming as I did this season without tiering up. It is important not to use too large a brood chamber. The hives with large brood chambers generally swarm soonest with me, generally use 7 frames 10x17 inside for side-box hives, and 8 frames 8¾x17 for top storing hives. It is very important to prevent swarming that bees should be wintered so as to come out strong and healthy and breed up early without dwindling so as to take advantage of the first yield of honey and go into boxes before hot weather, and once in the boxes, with our system of tiering, we can keep them right at it, so that the most of them will never have time to get up swarming fever, provided the yield of nectar is good and continuous, and this latter is the most important point of all, without which all the others are nix. To have it just right, the flow of honey must be abundant and come right along without a break, with occasionally a shower to keep the honey from getting too thick, as they will make wax much faster on thin honey than on thick.

The wintering and breeding up in spring can all be done satisfactorily by packing with buckwheat chaff, after the plan I described in the *Bee-Keepers' Magazine* for Dec., 1875, provided the bees are in frames nearly or quite 17 in. long, and they have healthy diet. In frames 12 to 14 in. long they generally dwindle more or less with me. One of the most prolific causes of rais-

ing the swarming fever, that has fallen under my observation, is disturbance or handling brood in swarming time. This work of handling brood should all be got along with before June and after the boxes are put on, the brood nest should not be disturbed till after swarming time, unless they should swarm out. Another cause of swarming is spreading the brood nest in May by inserting empty combs between the brood. If stocks are prolific they should be strong and early enough to spread their own brood as fast as necessary. If an empty comb is inserted between brood in such a stock they will fill it with eggs in 24 hours, and it will all hatch at once, making too many bees of the same age, thereby crowding the hive and getting up the swarming fever in consequence. Another cause of swarming that we can't control is an unsteady yield of honey caused by bad weather confining the bees to the hive several days at swarming time, they fill the hive with brood and feel their crowded condition. To recapitulate, preventives—shade, ventilation, abundant box room, tiering up, small brood chamber, early breeding and steady yield of nectar. Causes of swarming fever—disturbance by handling brood in swarming time, too much spreading of the brood nest in May and June, and bad weather causing an unsteady yield.

I wintered 20 stocks in a bee house and 18 in packing boxes out-doors; those in the boxes eat less honey and lost less bees than any I ever saw wintered, although 8 of them were light stocks made up from queen rearing nucleus. My first swarm was from one of those. Still I can succeed with the house apiary, have wintered in it for 3 years without losing a stock, and have wintered in packing boxes for two years without loss, and think they breed up faster early in the latter. Through the summer season I expect to get about ten stings in the bee house to one out-doors, that will be about the average where these large, non-swarming stocks are used, as boxes cannot be handled in the bee house with anything like the facility that they can out-doors, where you can get at your hive on all sides. Had five stocks to swarm from the bee house, six if we count one that lost the old queen and swarmed out when the young queen came out for her bridal flight; and had 5 to swarm from the 18 out-doors. I boxed the 38 stocks and two swarms and have made an increase of 4 to the present time. The 40 stocks averaged about 100 lbs. of white comb honey, that is finished and taken off, and there was a good deal left in an unfinished condition, some of it nearly finished. They got through on the white the 25th of July, from that time to Aug. 5th they did nothing apparently but kill drones. They are now working slowly on buckwheat, but if this heat and drouth holds, as the appearance indicates, it will be a short job.

Took 46 finished boxes (our boxes weigh when finished nearly 4 lbs.) from the best stock; they have 20 on the hive, some nearly full of comb and some partly sealed. From some have taken from 30 to 42 finished, and from others less. Two that lost their queens in June, I managed to keep along by giving them brood from those that swarmed out, so they finished about 70 lbs. each, but had to extract their brood combs once. Some think it better to hive the swarms and put on boxes, thinking they will get more honey from the two than from one on the non-swarming plan, accordingly I hived my first swarm on June 12th, put on the boxes the 13th, and they took right hold. About 5 days from the 12th gave them 4 combs with brood from another stock; gave unfertile queen to old stock, took 13 finished boxes from swarm and 10 from old stock, making 23 in all, of course I have another stock, but had enough before. J. P. MOORE.

Binghampton, N. Y., Aug. 9, 1886.

[Many thanks, friend Moore, for so full and satisfactory a reply to our inquiry. Some of your suggestions are quite new to us. In this connection it may be well to mention that the late Adam Grimm made a strong point of ventilation at the time of working in boxes. His plan was to put on boxes that did not entirely cover the frames and then block up the back end of the cover.

The many kind words spoken of our JOURNAL are very grateful, but please don't judge too uncharitably those editors who are interested in the sale of articles that come in the line of bee-keeper's supplies. We think some good, at least, is done by it, and can only wish that all editors who are interested in such sales may be honest enough to recommend only that which is good, whether it may be to their own private interest or not. It seems almost a matter of necessity that the publisher of a bee-keeper's medium shall do more or less toward providing for the wants of his patrons, as constant calls are made upon him to accommodate in that way, and we think it rather fortunate for THE AMERICAN BEE JOURNAL that the publisher and editor are not one and the same person; as the publisher, Mr. Newman, may do what he pleases toward furnishing supplies (and sometimes he has done so at a loss to himself) without in the least influencing any opinions expressed in these columns editorially. The long experience of Mr. Newman as a publisher gives him an advantage that he would not have if he had spent all his time working among bees or writing editorials.—ED.]

For the American Bee Journal.

Comb Guides.

There has been a great deal said of late about artificial comb or comb foundation. I have never seen a sample of it, but from what I have been able to gather from the discussions, I have come to the conclusion that the most useful and practical comb foundation is a simple wax comb guide, say one inch deep, and full length of top bar to be pressed in place by a die worked by a suitable lever. I think such a machine could be constructed at a trifling cost, and be made a source of profit both to the manufacturer of the machine and to the apiarist,

who by the use of the machine would be able to start all the combs for the bees exactly in the centre of bar, and straight.

I make the above suggestions hoping that some of our bee-men who have the time and talent, will give it a trial and report results. If such a machine comes into use I want one, for I am of the opinion that with such guides very little care will be required to ensure straight combs. J. W. DUNN.

Corpus Christi, Tex., Aug. 21, 1876.

[We think after you have seen them you will prefer inch strips of the foundation as guides, if you do not prefer using more.—ED.]

For the American Bee Journal

S. W. Ohio Bee-Keepers' Meeting

The second meeting of the South-Western Ohio Bee-Keepers' Association met in Lebanon, O., Sept. 9, 1876.

The discussion of questions and a general exchange of ideas was the principal feature of the day. One member wished to know the name of a plant he found in his neighborhood, on which the bees worked from early in the morning till after sundown. Upon examination several pronounced it to be Carpenter's Square, and all agreed that it was a very valuable honey plant.

The question was then asked, "Will it pay to use the extractor?" Those that had tried it were much in favor of it, while others had seen it used and thought it a good thing.

"What is the best method to get worms out of box honey?" was then asked. Some of the sufferers had tried examining it where it was in small frames, while others had tried brimstone, having to use it 2 or 3 times, if used immediately after smoking the honey would taste of it, but the taste would soon pass off.

"How do worms get into the boxes?" was then asked. One member had seen moths in the tops of the hives; one thought the eggs were carried in from the flowers; another thought the bees carried them there on their feet from where they were laid on the bottom board. A temperature of 18 deg. above zero was said to be low enough to kill them.

In preparing bees for winter, some fed when necessary a syrup of sugar and water in the proportion of about 8 lbs. of sugar to 2 gallons of water; one used molasses, and another had tried Sorgo molasses, but without success.

The best protection of the bees, was for the most part, some absorbing material on top, while some put an extra box around the hive and packed straw in the space between; one was intending to use Finn's patent hive.

Several had tried wintering in the cellar—temperature a few degrees below 40—but most of them thought out-door wintering best for this climate. A few remarks were then made on introducing queens to hives with fertile workers. One plan was to remove the hive to a new place and let the bees all fly back to the old stand, and as the fertile workers would remain they could be destroyed and the combs be returned to the bees, when a cell or a frame of brood could be given them. One member had been very successful by introducing a sealed queen cell, he had taken the trouble to take the frames out of a hive, one at a time, and by watching them long enough he had caught three bees on one frame in the act of laying eggs, and had caught as many as ten in one hive, with the aid of a glass he had counted 40 eggs in one cell.

On motion, the Society then adjourned to meet at the same place Feb. 14, 1877.

Bethany, O. W. S. BOYD, *Secy.*

For the American Bee Journal.

Transferring Staples.

I have a plan for transferring that differs from any I have read of, and I will give it to you. There is no patent on it that I know of. Instead of splints or twine or thorns I use wire staples and find them very convenient and about as cheap as anything. I have a pair of nippers with a cutter in them, I just take a small wire and cut off pieces the proper length to make the staples about two inches long and just wide enough to go over the frame. Bend them in shape with the nippers, have a lot of these ready, and when I get the comb fitted into the frame just slip on as many of these staples as necessary and the work is done. Try it anybody who will and you will find that it beats splints, twine, or thorns all hollow. JACOB COPELAND.

Posey Co., Ind., Aug. 16, 1876.

Mo. Valley Bee-Keepers' Meeting.

We have just received from the Secretary, Mr. W. G. Smith, the following report of a meeting held last May, from the columns of a St. Louis paper:

The Missouri Valley Bee-Keepers' Association met at the office of the state board of agriculture in the Insurance building, corner of Sixth and Locust Sts.

The Hon. John Monteith was invited to preside in the absence of the president of the association—Lieut.-Gov. Colman.

After the reading of the minutes of the last meeting by the secretary, W. G. Smith, and the disposal of some other business, the chair called on the gentlemen present to give statements of their experience in bee-keeping.

He said he had seen a number who intended to be present at this meeting, but he supposed in consequence of the lateness of the season and the few bright days for business they had been detained at home; another reason was that the day was devoted to school meetings throughout the State.

Mr. Albert T. Williams, of St. Charles, stated his experience with bees. It had been a poor season for bees, but his success in wintering was rather good. He wintered his bees in the cellar, and for saving honey it was economy. He would not allow any obnoxious substance in the cellar, such as cabbage, nor anything sour like a barrel of vinegar. He had about 100 colonies of bees. He kept the Italian bee and had no use for other kinds. He procured the Italian bee 6 years ago. He raised bees solely for the the honey, and was not a queen maker. In the process of substituting the Italian bee he removed the old queen and placed the

Italian queen over the comb. He had Italianized 13 colonies in one day. Care is required in removing the dead queen out of the way as the bees might cluster about the body. In one case the head and abdomen of the queen were six feet apart when large clusters settled on the disjointed remains. They will cluster even about a leg of deceased royalty, and the safety of the new queen depends entirely upon the removal of the old queen. His preference was for hives 14½x9 or 10 inches. He had found his bees profitable. He had used the extractor, but he found a prejudice against the use of honey prepared by the extracting process. But when it is known that honey in its purest form was obtained in this way he thought it would be preferred. He could see no objection to candied honey.

Mr. A. W. Windhorst, also of St. Charles, related his experience. He had good success with Italian bees. The honey last season, owing to the shortness of the sweet clover crop, was furnished mostly by Spanish needles and smartweed.

The season was too wet for sweet clover.

Mr. Thomas Parker, of St. Louis, gave his experience at some length.

Mr. W. G. Smith, also of St. Louis, said he commenced keeping bees 15 years ago, for profit and experiment; has had at different times from 10 to 40 colonies. He found, on the whole, that it was a very profitable industry for Missouri. He thought more of our people ought to go into the culture of bees. An acre of ground it was estimated would produce from 15 to 20 lbs. of honey. He estimated that St. Louis was capable of supporting 1,500 colonies where now there were only from 300 to 400 colonies. There was the blue grass, the forests and Shaw's garden to draw the nectar from. He entered into a close estimate of the yield and the profits, showing that bee-keeping would pay from 25 to 30 per cent. on the investment, but the bee cultivator must understand it; he must have a taste, a love for it. It is like other business. Nine-tenths of those inexperienced in the business who go into it fail. It requires work, hard work, and especially a practical knowledge of wintering bees.

Dr. Petzer said he commenced some 5 or 6 years ago with bee on the brain. He experienced considerable trouble in wintering his bees. He had buried them in the ground and in the cellar, but he found the nearer he conformed to nature the better. He described various hives used, and objected to a cellar.

Mr. Smith said he favored a dark cellar well ventilated.

Other gentlemen also gave their views.

Mr. C. V. Riley then gave his views on the question selected for discussion at a previous meeting—Do bees make or gather honey? Mr. Riley said he was fully convinced that bees make honey. Honey as we find it is a manufactured substance. We find in the calyx of flowers nectar, not honey. The bee laps up the nectar, it is taken into the stomach, digested and regulated in the cell of the comb. In this connection the professor gave a scientific description, illustrated by a drawing of the hymenoptera, to which the bee belongs.

He then took up the next question—Whether bees injure fruit?—and said he was satisfied from direct observation that bees do injure fruit, and he thought that a man should not increase his stock of bees at the expense of his neighbors' fruit.

The secretary read an interesting essay from the South, giving an analysis of honey and nectar, and tending to prove the affirmative of the question, that bees make instead of merely gather honey.

Other essays were read by the secretary, and after some other business the meeting adjourned.

Do Bees Make or Gather Honey?

A PAPER READ BEFORE THE MISSOURI VALLEY ASSOCIATION.

Gentlemen:—At the organization of the Missouri Valley Bee-Keepers' Association, the secretary and treasurer of the association were instructed to solicit essays upon practical subjects, to be read at the next meeting which is to take place on the 4th of April, 1876. As I have been experimenting and making researches on one of the subjects I thought I would give you the result.

In taking up the subject, "Do bees make or gather honey?" I will not try to prove that bees make honey, but that they gather a sweet matter—nectar—from flowers and that this matter is transformed into honey; and my only aim in writing this will be to try to raise a serious interest on this too much neglected question. Though this question may not be of interest to a majority of bee-keepers, it is nevertheless of great utility in apiculture and might have in practice very important consequences.

Apiculturists and naturalists supposed, and suppose yet, that honey has the same composition as the nectar of the flowers; and in many European bee-books it is stated that the bees merely gather the honey and deposit it, without alteration, in the cells where it only loses water. In presence of the confusion and contradiction existing at present on the matters gathered and produced by bees, it is necessary in order to arrive at a decision, to make a chemical and physiological statement of the production and composition of honey. In nearly all the flowers in which fecundation is accompanied by the intervention of insects, there are organs, named by botanists *nectaries*, secreting a sweet liquid matter, which is generally known as nectar. It is this nectar that the bees gather to produce honey. Now we will see that nectar and honey are two distinct things, and of a different composition, and that the bees cause the nectar to undergo a chemical transformation to convert it into honey.

Mr. Braconnot has chemically analyzed the nectar of over 30 species of plants of 25 different families, and he has found them to be of about a constant composition. He says that the nectar is always identical with itself. It is a colorless and limpid liquid of a density little superior to that of water. It does not contain, in general, traces of acid, it is a neutral body, and blue and red litmus paper is without action on it. He represents the composition of nectar as follows: cane sugar (or saccharose), 13; uncrystalizable sugar, 10; water, 77—total 100.

He has found no trace of mannite nor glucose. Now, it will be seen below, that honey contains principally an excess of

glucose, some mannite and very little or no cane sugar. Lowitz was the first, in 1792, who found out that the sweet crystalizable matter found in honey was not cane sugar. Proust,in analyzing some candied honey,has shown the identity of this crystalizable sugar with grape sugar, which he had discovered in the fruits—glucose. Guilbert has placed in evidence the presence of a large proportion of uncrystalizable sugar to which he gave the name of "sugar of honey." Later, Guibourt has found some mannite in honey; and more recently Soubeiran has had recourse to optical analysis to separate the different sugars which are found in honey. M. M. Dubrunfaut, Roders and Calloux have completed by their analysis the preceding researches. Mr. Calloux gives the following as the composition of field honey: glucose, 45.10; uncrystalizable sugar (or mellose), 43.95; water, 7.70; waxy matter. 1.15; nitrogenous and acid matters, 2.10—total 100. As honey made on the mountains is a little different, I also give an analysis made of honey taken at 3,600 feet: glucose and cane sugar included, 56; uncrystalizable sugar or mellose. 30.4; water, 8.5; mannite, 1.9; waxy matter, 0.6; nitrogenous and acid matters, 2.6—total 100.

As we see, by the analysis given above, honey is a mixture in variable proportions, of a certain number of definite organic compounds. In its most complete state it contains glucose, uncrystalizable sugar—mellose, some water, mannite, cane sugar, an acid, a greasy coloring matter, and some nitrogenous matter which comes from pollen. I think it would be well to give some of the principal properties of some of the bodies which enter into the composition of honey, and will try to explain as much as possible how the transformations take place. First we have glucose which is a crystalizable sugar; it ordinarily presents itself under the form of small, white,compact,agglomerated crystals. It is found in grapes and in different fruits. The most economical method of obtaining it is by acting on starch or lignin with diluted sulphuric acid. It is three times less soluble in water than cane sugar, and its solution at equal concentration is three times less sweet.

Mellose or uncrystalized sugar is a liquid sugar which does not crystalize. According to Braconnot the uncrystalizable sugar of nectar is, by its properties, distinct from the uncrystalizable sugar of honey. Therefore it must have undergone an *isomeric* transformation to produce either mellose or glucose which are found in honey.

Mannite is a body which is naturally found in manna. As it has been ascertained that mannite is a product of the viscous fermentation of complex saccharine mixtures, we see that it is not necessary the bees have gathered the natural mannite, but that it might have formed itself subsequently in honey. Mr. Linnermann has obtained mannite by combining hydrogen with glucose. I will mention, nevertheless, that mannite is most generally met with in mountain honey. The presence of a free acid has been ascertained in honey. It is by the influence of this acid, supposed to be identical with the acid substance found in the bees, that the transformation of cane sugar of nectar into mellose and glucose might have been caused.

It is an established fact that if a diluted acid is made to act upon cane sugar, subsequently grape sugar is formed. It is natural to suppose that an analogous transformation, under the influence of the acid principle known to exist in the bees, has changed the cane sugar of the nectar into uncrystalizable sugar. It is natural to come to the conclusion that the bees gather the nectar from flowers and that this nectar in passing in their body, under the influence of agents not well recognized, undergoes a change and comes out in the state of honey.

We are well aware that the bees takes the nectar from the flowers with its bill and that it is conducted by this organ into the mouth where the tongue pushes it into the æsophagus, which in its turn makes it pass into the stomach. When its stomach is full of nectar the bee returns to the hive and disgorges it into the cell. It is supposable that it is during this time that the acid of the bee mixes with the nectar and some of the transformation takes place. We have effectively seen above that the composition of honey is essentially different from that of nectar. The nectar contains more than half of its sweet matter in a state of cane sugar, while this sugar, when present in honey, is found but in a very small proportion.

In short, glucose don't exist in the nectar and it is found in large proportion in honey. I have fed some bees with a thin syrup made of 25 parts of crushed sugar and 75 parts of water, and after it was evaporated and capped by the bees, extracted it, and though it was perfectly neutral when fed, it had then a slight acid reaction, and contained a large proportion of uncrystalizable sugar and could obtain but a very small proportion of crystalized cane sugar. I fed them also with a syrup made of equal parts of sugar and water colored with cochineal, and after it was capped, extracted it and it it was very much lighter in color.

After the experiments and the chemical analysis given above, I have no doubt that it will be easily seen that the bees effect a real chemical change to produce honey from the nectar; and this process is one which appertains to animal chemistry,a species of assimilation, elabration and excretion of which we have so many other instances in the cell functions of glands in the animal economy.

This is, indeed, the old views, for Lord Bacon says of the bee: "*Hæc indigesti e floribus mella colligit, deinde in viscerum cellulis concoctal maturat, iisdem tamden insudat, donec ad integram perfectionem perduxerit.*"

PAUL L. VIALLON.

Bayou Goula, La.

The Best Hive for all Purposes.

A PAPER READ BEFORE THE MISSOURI VALLEY BEE-KEEPERS' ASSOCIATION.

"What is the best hive for all purposes?" In what I shall offer I hope I may be able to throw some light on the other question—"the best mode of obtaining box honey." I will try and give you a description of the hive that I use, and I begin with the frame, which is the most important part of any hive. This frame is here known as the Bingham frame, and is the invention of Mr. T. F. Bingham, of Abronia, Allegan Co., Michigan, and in justice to Mr. Bingham, I must inform your convention that he holds letters patent on this frame. But its advantages are so great that any bee-

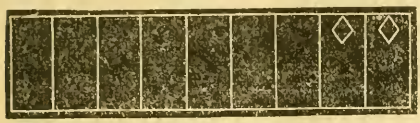
keeper can well afford to pay him liberally for the right to use it. I would here say that I am in no way interested in this frame personally, and write only in the interest of bee-keepers generally.

The top bar of this frame is a square stick of wood ⅞ in. square, and when used in the hive one corner is uppermost, thus:

Mr. Bingham uses them 21 to 22 in. long. I use them 20 in. long, but were I to start anew, I would use them 24 in. long. The end pieces of the frame are ⅜ inch thick, 1⅜ or 1½ in. wide, and 6 inches long. There is no bottom piece to the frame.

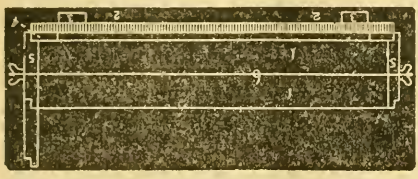
The frame looks thus:

We use from 8 to 12 of these frames in a hive, 10 frames are ample for a very good swarm. The ends being 1⅛ in. wide stand close together when in the hive, and really make the side of the hive thus:



The diamond marks indicating the ends of the top bars, by which it will be seen that the bees have ample space to pass between the top bars to the surplus boxes. Having finished the frames I will proceed to the rest of the hive. I have varied my case from that used by Mr. Bingham, and as I prefer it, will describe it.

Here is a rough draft of the front of the hive, without the cover.



Figures 1 indicate the front board which is 2 in. longer than the frames over all, that is if your top bar is 20 inches, and your end pieces ⅞ in., this would make the frame 20⅞, so this front board would be 22⅞ long. 2, 2, indicates the edge of the bottom board; 3, 3, are the cleats to which the bottom is nailed; 4, 4, are ends of ⅜ in. thick strips nailed on top and at each end of bottom board, these strips raise the frames and front board ⅜ in. from bottom board, and makes the entrance for the bees. The back board is precisely like the front board, so there is an entrance front and rear, but in practice we generally (except in warm weather) close the rear entrance by a spare strip sawed off the proper length; 5, 5, represents the ends of the side boards, and 6 is a rod of iron with thumb screws at each end to hold them together, precisely like the end boards of a common sugar box.

These sideboards are 6½ in. wide and rabbeted on each edge as represented, and are as long as the bottom board is wide, say 20 or 24 in. Now this box screwed together with the requisite number of frames makes the hive proper. But the ten frames will not occupy all of the bottom board, so that the back board of the hive must be crowded close up to the frames, and by turning the thumb screw will remain them as tight as if nailed, but can be instantly loosened by loosening the screws. When you do not want boxes on the hive the cover can be put on and you have a hive complete. I always use a cloth over the frames so that the cover does not stick when being removed. Now when you wish to put on honey boxes, remove the cloth and put them directly on the frames—do not use a honey board. Get your brood and surplus boxes as near together as possible, but we have no ease for the honey boxes. To have this, put up another box with the rods and screws exactly like the lower one for the hive proper, and it will fit like a glove, the rabbeted edges of the side boards holding it in place, and so on up, any number of stories you may desire.

I may not have made my description plain, but I think any of you with a mechanical turn of mind can get the idea. Its advantages are that it is simple and cheap, absolutely free of gimcracks and traps, yet possessing all the real requisites of a first-class hive. It will be seen that only two kinds of pieces are necessary for the case—side boards and end boards. Of course you must have a bottom and top. The top is any plain cover that will project over all and which is water tight.

No hive in the world can beat them for box honey, for the reason that you can get the brood and honey boxes so near together. I do not speak at random, I know what I am talking about. Hundreds of these low hives are in use in this vicinity, and they are fast driving out all other hives, and when they become generally known the name of their inventor—Mr. Tracy Flynn Bingham—will hold a place among apiculturists, not inferior to Quinby or Langstroth.

JULIUS TOMLINSON.

The Special Correspondent of the London Times says it would be difficult to find an apter illustration of the big way in which the Americans do things than that furnished by the "Centennial Newspaper Building," in the Exhibition grounds. Here you may see any one, or, if you like, all of the 8,129 newspapers published regularly in the U.S., and see them for nothing! It is about as cool and agreeable a place—quite apart from its literary attractions—as a visitor to the Exhibition could wish to be offered a chair in. He may at first wonder how, among 8,000 papers, among them such mighty sheets as the New York Herald, he is to get at the small, loved print of his home, thousands of miles away, it may be, over the Rocky Mountains. But the management is so simple that, by consulting the catalogue, or even without the aid of the catalogue, any one can at once find whatever paper he wants. They are pigeon-holed on shelves in the alphabetical order of their States or Territories and their towns, the names of which are clearly labeled on the shelves. The proprietors of the Centennial Newspaper Building are advertising agents, the largest in all America—Messrs. G. P. Rowell & Co., of New York. Their enterprise will cost altogether about $20,000, or £4,000, including the building and the expenses of "running" it for six months. The 8,000 odd American newspapers are declared, by the same authority, to exceed "the combined issues of all the other nations of the earth."

Our Letter Box.

Darke Co., O., Aug. 8, 1876.—"The honey season has been a good one in this locality."
W. M. HARPER.

Kosciusko Co., Ind., Aug. 13th, 1876.—"Honey is so plenty that the bees are swarming again. I lost a queen that I bought, swarmed and went to the woods in two weeks after introducing. I found the hive full of queen cells in three weeks."
S. R. WINCE.

Foxboro, Ont., Aug. 14, 1876.—"My bees are doing well. I commenced with ten stocks in the spring. I have now increased to 22. I have extracted 500 lbs. of honey, and have box honey enough to make 600 lbs. this season."
LEWIS SABLES.

Henry Co., Ind., Aug. 12, 1876.—"Bees have done well for us this season. I had 21 colonies in the spring; I got 46 good swarms, increasing my stock to 67. They are doing finely now on buckwheat and smartweed."
W. N. NICHOLSON.

Oneida Co., N. Y., Aug. 13, 1876.—"In this section we are disappointed in our crop of honey. In June the prospect was good for a large yield, but some report now "not half a crop." Bees have increased, in some cases doubled, and even more, but the surplus is light. Last spring I sold down to 80 stands and have now 156 full stocks—quite a number more than I had last year, and yet not so much honey as then."
R. BACON.

Lansing, Mich., Sep. 4, 1876.—"Our bees doing grandly. Never saw such a yield of fall honey; just pouring into comb. Extractor at such a time is invaluable. Some hives which I purposely left are utterly destitute of brood. Every comb filled with honey. All that I extracted have from 8 to 10 full combs of brood. Those who have not used the extractor please look out for spring dwindling. I would rather the honey would be extracted, even if thrown away."
A. J. COOK.

Ghent, Ohio, Aug. 31, 1876.—"This season for bees is the best for surplus honey we have had for a long time in this neighborhood. The weather has been very warm. Have taken 2,000 lbs. comb honey, chiefly in small section frames, and 1,000 lbs. of extracted, and all of the best quality from 40 stands, and their increase. A few very weak in the spring produced no surplus, while others, good and strong, produced from 100 to 150 lbs. of comb honey. I have now 80 swarms in prime order. The honey season is pretty much over, but am yet taking out full frames and replacing with empty ones and Italianizing the hybrids. I have a few in box hives without surplus arrangements that I have made no account of, 3 not at home that are kept to increase from—they did well. Honey sold to date, $150 worth. Price: extracted, 15c., comb, 20 to 25c. per lb. My neighbors' hives that are poorly managed swarm often with melting down of combs and honey. Much success to THE AMERICAN BEE JOURNAL."
THOMAS PIERSON.

Washington Co., Wis., Aug. 17, 1876.—"We have about 750 swarms of bees, mostly Italians. Last spring had about 400 swarms, got about 8,000 lbs. extracted honey, will get perhaps 200 lbs. box honey. They did not work much in boxes this year. They are doing well now for themselves for winter. We have kept bees for about 30 years; for 20 years quite extensively. We find, one year with another, it pays better than anything we know of. Would advise every one properly situated to keep a few swarms of bees, if only for their own use."
J. & I. CROWFOOT.

Washtenaw Co., Mich., July 22, 1876.—"Yesterday and to-day has been very hot: 98 in the shade. The bees, although shaded with cloth shades and with plenty of room in the hive are hanging out, but are gathering considerable honey. I have extracted my first white clover and basswood honey this year, 50 lbs. from one hive. I have managed to keep my bees from swarming more than twice, and the most of them have swarmed only once. I have 3 swarms from which I am trying to get 100 lbs. of box honey each. I took a queen cell out of a hive which had swarmed, and put it in a box. As soon as it hatched, or 2 or 3 hours after, I went to a queenless nucleus and lifted out a frame of comb covered with bees, and put the queen right on the comb among the bees, and then put the comb back in the hive; then I took a frame of brood and honey and put it in another nucleus, and on examining since the brood began to hatch I find 2 and 3 eggs in a cell, the cells are extended, or the caps are raised, something like drone brood. There are not many drones among the bees. What is the matter with them? I think a great deal of THE AMERICAN BEE JOURNAL, and would not keep bees without it. I have gathered a great deal of sound information from it this year. Please answer through the JOURNAL."
J. H. MURDOCK.

[The statement is not very clear as to where the brood came from with the raised cells, but it looks like the work of a fertile worker.—ED.]

Cincinnati, Sept. 4, 1876.—DEAR EDITOR: "The honey season is over in this location. As it turned out we had one of the best seasons we have ever had. I took over 5,000 lbs. from 26 hives; had no swarms (that is natural ones), but have made several artificial ones since the honey ceased to come in. During 8 year's experience I have had but two swarms at the same time. Have had from 20 to 40 hives. We work for extracted honey altogether. We have no trouble in selling it here at home for 20c. and 25c. Must say I like THE AMERICAN BEE JOURNAL better than ever. Your manner of commenting on correspondence seems to me so much better than the old way of merely printing a letter and allowing the reader to draw his own conclusions. I have a case in my mind of a correspondent who wrote to the JOURNAL some 5 or 6 years ago, and gave a description of a wonderful moth-proof hive, made of sheet iron plastered over with cement or mortar. Now a modern intelligent bee-keeper with his frame hive just passed such an article by with a smile, but a friend of mine after reading it through thought it was just the

thing and was going to make some of them, but desisted on my advice. Now I thought it would have been much better if Mr. Wagner had told the writer in a kind way how far he was behind the times, and that the moth wasn't the terrible enemy now it once was. In fact, if it wasn't that I am asked so often, "don't the moth bother you." I would hardly think of them. Then they tell how their father or grandfather used to go every morning and raise the hives and brush around them, and advise me to do likewise, as it must be a good thing."

R. L. CURRY.

Outagamie Co., Wis., Aug. 8, 1876.—"My bees are doing well. Have increased from 10 to 28 colonies. Have extracted nearly 300 lbs. Bees are now at work in boxes."

J. P. WHITE.

Wayne Co., N. Y., Aug. 1, 1876.—"Bees are not doing well here. It is too wet. There is but little surplus."

J. I. JOHNSON.

Melrose, Va., Aug. 3, 1876.—"Bees have done well this year so far; not many swarms but abundance of honey. I have 2 queens—mother and daughter—living peaceably together for two months; one producing hybrids, the other pure Italians. The old mother only laying a few eggs. She will play out soon. I have frequently had them live in this way, but not so long as these. The mother and daughter never disturb each other when superseding queen."

R. W. HARRISON.

Sauk Co., Wis., Aug. 18, 1876.—"Bees are gathering tolerably, but are swarming the second time. Aug. 1st they had the swarming fever as bad as ever, and as quick as they were strong enough to work in boxes they would swarm; quite a number have gone to the woods. One swarm, whose queen had a clipped wing, started for a tree 30 rods distant, and then returned. A few days ago I listened for the piping of a young queen, found they were bound to swarm, so I shook all the bees into another hive, and was picking out the queen cells, when all at once they swarmed from the hive I had shook them into. No basswood honey this year, in this section."

W. PORTER.

Chillicothe, Mo., Aug. 25, 1876.—"You request bee-keepers to send you samples of such articles as they may think of interest to the fraternity. I send to-day what I think to be the best frame in use and as simple and cheap as any other. The underside of the top bar is beveled the entire length, giving it two important advantages:—First, the bevel edge, especially if rubbed with a piece of bees wax, makes a good comb guide. Second, when the projections are hung on hoop iron with saw-tooth notches the comb will be the exact distance desired from centre to centre, not only at the top but at the bottom also, for the bottom of the frame is held in its place by small wire staples in the end of the hive. The lower end of the upright stiles being tapering allows the frame to slip down between the staples without jogging. The inner bar being strong (⅜x⅝) makes it right for the use of the zig-zag transfering wire which accompanies the frame. The object in the zig-zag of the wire is to give it spring so that any number may be used without loosening others; also to enable one wire to hold the edges of two pieces of comb. In using these zig-zag transferring wires it is not necessary to lift out the frames to take them off. Take the top end between the thumb and index finger, give it one-fourth turn and lift the wire out. I have tried every contrivance I have ever heard of and never found anything to give complete satisfaction in holding comb until I used this wire, and it was not satisfactory until I invented the zig-zag to it some five years ago."

J. W. GREENE.

[Tastes differ very much and there are perhaps not a majority who would prefer frames at fixed distances. If comb foundation comes into general use the underside of the top bar will be flat.—ED.]

Winthrop, Iowa, Aug. 30, 1876.—"As there seems to be considerable discussion in regard to "fertile workers," I will give you my experience. In hive No. 1, I had failed in introducing a queen, and the bees started queen cells from larvæ, there being no eggs in the hive. These cells (three in number) soon hatched, and a few days after I found the hive under the management of a "fertile worker." My idea is that the larvæ being too far advanced to raise a perfect queen, nevertheless by means of royal jelly, etc., raised a fertile worker. In hive No. 2, I had introduced a queen which proved to be a drone layer, who soon swarmed leaving in the hive a great many queen cells of which I destroyed all but two of the finest. Shortly after these hatched, the hive was in possession of a fertile worker. Would like to hear the experience of others through the columns of the AMERICAN BEE JOURNAL."

C. A. FREDERICK.

[We never before heard of a colony swarming which had a drone layer. Is there no possibility of mistake?—ED.]

McHenry Co., Ill., Sept. 1, 1876.—"I believe I have never written anything for the AMERICAN BEE JOURNAL. I have read a great deal of the writings of others in it, and have given nothing in return. I have kept more or less bees for ten years. I commenced last spring with 38 stocks and now I have 85, all in fine condition, excepting one. This has been an exceptionally good season, both for bees and honey. I allow natural swarming altogether, but I doubled a great many of my smaller swarms and put back a good many more. Have taken over 1,100 lbs. of box honey, and shall get 300 or 400 lbs. more, all put up in boxes 6x6x2¼ in., glass on both sides, and each box holding a comb of 2½ lbs. weight. I winter my bees in the cellar, in tiers on shelves one above the other, and they do well in that shape and occupy less room than if spread out. Will you, or some of your correspondents tell me how many stocks are kept in one place, and can be kept with profit?"

J. L. ANDERSON.

[The number of stocks that will do well in one apiary depends of course somewhat on the locality. Adam Grimm kept about 100 in each of his apiaries, and perhaps in most cases that will not be far out of the way as a limit.—ED.]

Chickasaw Co., Iowa, Sep. 4, 1876.—"I want to sow an acre of mignonnette in the spring. How much seed should be sown per acre? Where can it be found, and at what price? I sowed some Alsike clover 2 years ago and pronounce it a No. 1 honey plant. Basswood, white clover and buckwheat are our best sources for honey in this section. Basswood only lasted about five days this year. The hot weather blighted it very bady. I had 14 stands to start with; have increased to 28 strong stands, and taken 900 lbs. of honey from them—200 lbs. box and 700 lbs. extracted."

E. J. SCHOFIED.

[Mignonnette seed can be obtained at this office at $1.50 per lb. We do not know the number of pounds per acre, but as the seed is very small, possibly 5 pounds would do. Can any one give the number of pounds per acre?—ED.]

Erie Co., N. Y., Sept. 6. 1876.—"Can two small swarms be united for wintering? If so, how can it be done? Both are Italians, old swarms from last year. Both have queens, but they did nothing this year."

CHARLES HACK.

[Leave them till the time of putting into winter quarters, then put into one hive the frames from each containing the brood and bees. Being in a nearly dormant condition, if the transfer is quietly made they will not quarrel and by spring will have acquired the same scent. Of course one of the queens will be killed.—ED.]

Grand Meadow, Minn., Aug. 18, 1876.—MR. NEWMAN: The comb foundation was received some time ago. Am using it successfully. I believe it is a benefit even at $1.50 per lb., but hope it may soon be within the reach of all. I send you two flowers that grow on our prairies by millions. Are just coming in bloom now, and my bees are working busily on them. These flowers bloom until frost. Will you please answer telling me their worth. I think they are good, or why should the bees work in almost endless numbers upon them. I call them a spieces of golden rod, by the description of flowers in Quinby. No. 1 grows from 1 foot to 18 inches high. No. 2 from 18 inches to 2 feet high, and they bloom together. No. 1 lasts a little longer than No. 2.

Aug. 16, I had a pure Italian swarm of Mr. Ingmundson and set them among my black swarms, at noon the same day, after moving them by stage and rail 26 miles. At 3 P. M. they were working admirably, carrying pollen and honey, and yesterday at 3 P. M. (17th inst.) I found my Italian workers 2½ miles from home, working on a tall gumweed (I call it) with a flower like a small sunflower, similar to button ball flowers, only it grows about 4 feet high. I was surprised to find my bees so far from home on the second day, but I know they were mine as there are no Italians but mine within 25 miles, or tree large enough for bees inside of 4 miles. I shall endeavor to Italianize the rest of my bees, believing they are far superior to blacks. Have been troubled with worms in my black hives. Mr. Ingunmdson has 76 swarms and is doing finely. He has extracted over two barrels of honey already. To those who say the Italians are so much better natured than the black bees, tell them they have not become acquainted with the genuine article yet.

C. F. GREENING.

No. 1 is *Solidago Rigida*, No. 2 *Solidago Nemoralis*. These are two of our many species of Golden Rods which are very valuable as honey plants. Our bees have been gathering from golden-rod since August 10, and very plentifully too. The honey is darker than first quality, but much lighter than buckwheat, and is pronounced by all here as excellent in quality. Our president pronounces it first-class in flavor.

I planted a large bed of migonnette the first week in May. From the last week of June till about the second week of August the bees were constantly gathering from it. From the middle of July—after basswood—till Aug. 10th our bees were comparatively idle. Several acres of migonnette would have kept them busy. Our black mustard was sown the second week of May. Commenced to bloom the middle of July and is not quite gone now. Has been covered with bees. This fills the time of usual dearth. Borage commenced to bloom July 1st, and is still in bloom, constantly covered with bees.

Tell your subscribers to send good flowers, good leaves, and to state height of plant and locality. Just a short flower is not always sufficient for analysis.

Sept. 13.—The second lot of plants sent by Mr. Greening are species of aster. As there are about a score of species in the U. S. the specific determination would be quite difficult, especially as the flowers would need to be soaked, and then subjected to a most careful and painstaking scrutiny. Still this would not deter me, if it were of any practical importance to know the exact species. All of the asters are very valuale as honey plants, and so Mr. Greening may rest assured that with favorable weather he will secure great quantities of that for which the apiarist thirsteth. I speak of weather for true it is that though very wet weather will give much bloom, yet it as effectually cuts off the honey.

We had a very wet June here, and not enough white clover honey for a sample. We have had a dry fall, though sufficient early rains to give us plenty of flowers, and I never saw such a rich yield of honey. Why if there is anything in development by use, especially if Lamark's view of evolution be correct, that development is promoted by desire. Our bees must have honey stomachs that are fairly stupendous, and by the way the honey comes in I verily

believe they have stretched. Why one colony has already made seventy pounds of comb honey besides about twenty pounds of extracted—just removed to give the queen a chance. All, too, from these same asters, together with golden-rods, sunflowers, etc. A. J. Cook.

Corpus Christi, Texas, Aug. 21, 1876.—"Bees have not done so well in this section as last year, owing to drouth, but they have paid a good profit. I have sent you several subscribers this year and will send more." J. W. Dunn.

Pointe Coupee, La., Sept. 9, 1876.—"I shipped my honey to New York this week. Increased 60 per cent.; had an average of 15 combs built to the swarm, and obtained an average of 70 lbs. of extracted honey to the hive. All common bees in Langstroth hives." W. B. Rush.

Shelby Co., Ky., Sept. 12, 1876.—"I had 22 stands of bees last spring. Sold 2 in April, leaving 20. Obtained 1,700 lbs. of comb and extracted honey and increased to 56 stands. I sell my honey at 25 cents per lb. Who says bee-keeping is not profitable? Of these 56 stands I sold 6 at $15 each. I have a fine stand of bees that has two queens; one of them has no wings; they both lay eggs and live happily together. Can you explain that?" Fr. Krueger.

[Many cases, especially of late, are reported of two queens in one hive. Usually, if not always, the old queen is about to be superseded.—Ed.]

Tioga Co., Pa., Sept. 8, 1876.—"Bees have not done as well here as I thought they would at the commencement of the season. We had so much rain during white clover blossom that the honey was very thin, and the bees did not cap it over till after buckwheat commenced to bloom; and then they filled up the cells with buckwheat honey and capped them over, making half the entire crop of honey in this section mixed and the other half, buckwheat. On account of the drought of the past two months buckwheat did not yield half the usual amount of honey, although there was double the usual amount sown in this section, and the grain is even a poorer crop than the honey." John Atkinson.

Chillicothe, Mo., Aug. 17, 1876.—"On Monday afternoon I took 50 lbs. of white clover honey from my prize colony of Italian bees, No. 47. This makes 175 lbs. it has given this year up to the middle of August. Besides this good yield of honey it has been allowed to cast one swarm; the old queen, "Betsy Ann," I sold to Dr. Dice, of Dawn, for $5. If the weather should be reasonably fair from this on, I shall get at least 125 lbs. more, making the enormous yield of 300 lbs. of honey, a good swarm, and a $5 queen from our colony in one year. I have a number of other colonies that will turn out about as well and maybe better than "47." I had over 100 lbs. from each of some new colonies made about June 1; I expect to get as much as 200 lbs. of nice box honey from a good many hives; but the largest yields are produced from two-story hives with the extractor." J. W. Greene, M. D.

Piatt Co., Ill., Aug. 22, 1876.—"I started last spring with 28 stocks; increased, mostly by natural swarming, to 62, and sold three swarms. Young swarms are generally full, one-half of them gathering surplus. I have had about 600 lbs. of comb honey, and expect to take enough more to make 1,500 lbs. this season. White clover is our main dependence here. We have some basswood and fruit bloom in the spring. In the fall we have smartweed, spanish needle, goldenrod, buckwheat, and a white blossom that they are now at work on. I don't know its name. It grows about 3 feet high, a single stem with top like flax. It grows exclusively in the timber and affords a good supply of honey." J. Keenan.

Posey Co., Ind., Aug. 16, 1876.—"In April last I took charge of 11 colonies of native bees, 3 in the Wilkinson hive and 8 in the old fashioned gums, and transferred the 8 into the W. hive in April, while fruit trees were in bloom. At the last of May I increased the 11 by artificial swarming (except one that volunteered a natural swarm on Sunday) to 22. From those three that were already in the W. hive I have, up to this time, about 50 lbs. each of nice comb honey. From two of the others, about 30 lbs. each, and from the balance none, for they were very weak in the spring, while those in the patent hives with no better care last year came through the winter strong in bees and full of honey. Our honey season ends with June generally, but our fall honey harvest is about commencing now. I opened some of my hives to-day, and find that they have commenced building in the supers, and if it continues seasonable till "Jack Frost" comes, I hope to have a better report to greet you with, for I have not "managed my bees to death," but have got every one of my 22 hives crowded with the little laborers to gather the harvest in, when it comes. I have not tried the Italian bee nor the extractor yet, but think if I am successful this fall and winter I'll try both next year." Jacob Copeland.

Old Fort, N. C., Sept. 16, 1876.—"You ask for information about honey plants. Well, I have sown buckwheat for 3 years, and although it always yields honey and pollen, yet I am very sure that any quantity less than ten acres will not make an appreciable difference." Rufus Morgan.

Trumbull Co., Ohio, Sept. 18, 1876.—"This has been a good season for this section. Last fall I put 10 stands in the cellar, and left 9 on their summer stands, well packed; one starved in the cellar and one out-doors, and 6 dwindled in the spring, leaving 11. I increased them to 19 (mostly natural swarms), managed on Butler's plan, and I have sold $110 worth of extracted and comb honey, and they are now in better condition than last year. I made a pair of scales last winter and set a hive on them last spring. It gained most on fine days after fruit blossoms till middle of June, when they swarmed but went back. They had on two tiers of boxes (6 each) 6 in. square by 5 in. deep. I took all the brood and honey from the main hive and filled up with empty comb. They gained 10 lbs. the first day, 8 lbs. the next, and 5 and 6 lbs. for several days after; they finished all the boxes and gained weight during August." J. Winfield.

Atchison Co., Kansas, Sept. 18, 1876.—"My bees have done well. I have extracted 4,000 pounds from 38 old swarms. I will tell you how much comb honey I shall have, at the close of the season."

C. W. STOKES.

Plain City, O., Sept. 15, 1876.—"My bees have done very well this season, but not as well as they would if my health had been such as to have permitted me to look after them personally. I have 68 colonies, all in good condition for winter."

C. E. SWEETSER.

San Jose, Ill., Aug. 15, 1876.—"During white clover yield, which was a remarkable one in this section, my bees did very well. They are now working on heart's-ease and early sown buckwheat, and they make the yard lively with their busy hum. I expect to return to the East this fall, and I wish to find a good location for an apiary. Do you know anything about Maryland? Whether an apiary could be profitably conducted there and in what particular part? I have thought of the region about Frederick or Hagarstown, but having never been in that State, of course I know nothing about it and wish you could enlighten me. I would like to get near the Potomac, or on some stream emptying into the Chesapeake and not too far from it. The hard, blustering winters with late springs are hard on bees in this western country. I have never yet lost a swarm from this cause when wintered on their summer stands, though last winter, a year ago, I found a few of them considerably reduced. Last winter I lost 7, wintered in cellar. Cause—dysentery—thin, unsealed honey. I had them away from home and they did not not get attention when they should have had it."

"My method of wintering bees is so simple that it is worth at least a trial. In the first place my hives range in length from 18 to 26 inches, with frames set in crosswise and entrance in the side. In putting them into winter quarters I lift out two or more of the end frames and set in two division boards having six inch holes bored in them, these I set close up to the frames, leaving a space in each end of the hive. I then remove 3 or 4 of the strips from between the frames, and spread a piece of old muslin over them letting it hang down over the holes in the division boards. I then fill it all in compactly with any absorbing material—I generally use straw—and close all up in the cap except occasionally a fly hole. I close the entrance up tight except about an inch, and fasten a small piece of wire cloth over that. Should there come a day at any time during the winter warm enough to make the bees restless, but not sufficiently warm to allow them to fly, I simply shade the entrance and they soon become quiet. If it is warm enough I give them a fly and as soon as all have returned, replace the wire cloth. I give them no other protection and have never yet lost a stock when wintered out of doors and treated in this way, but they come out strong and bright as a new silver dollar, in the spring. My hives are particularly adapted to this method of wintering, and it is certainly much less trouble than to carry them all into the cellar or house and out again in the spring, besides two or three airings probably during winter." O. W. SPEAR.

Van Buren Co., Mich., Sept. 22, 1876.—"Bees have increased well by swarming, but have made very little honey. I shall not have over 200 lbs. box honey from 38 stands. One of my neighbors will have only 300 lbs. from 110 stands."

A. S. HASKIN.

Fairfield Co., Conn., Sept. 18, 1876.—"Bees have not done very well here this season. Have taken no honey since July 15. Have had a very dry season, Average about 50 lbs. to the hive, part comb and part extracted, but very nice, white clover. Have no trouble in selling at 25 cents for extracted, and 30 cents for comb. Have but ten hives, hybrids and blacks." N. S. KELLOGG.

Marshall Co., Iowa, Sept. 20, 1876.—"Bees have done well here this season; are busy yet. I commenced the season with four stands; increased to ten. Had 2 or 3 swarms to abscond to parts unknown. Will take about 150 lbs. of surplus honey in the comb. With an extractor might perhaps have taken more." J. C. ARMSTRONG.

Wellsville, Mo., Sept. 13, 1876.—"I have read the BEE JOURNAL carefully for many years, and some things I have read which it is difficult to believe. One thing I will mention, some people in the Southern States, and some here in Missouri, claim that there are two varieties of common bees—one small and quite black, the other variety lighter colored (gray) and much larger. They claim also that the gray is quite, if not altogether, as good a variety for all purposes as the Italian. Now I claim there is but one variety of what we call the common bee;—namely, the black bee of Germany. If there are two varieties of common bees, we want the proof. If there are two varieties, how is it that they have not mixed in a state of nature? I have made a specialty of bee-keeping this season and my only trouble has been prevention of swarming. I did not want much of an increase because I had not a sufficient number of hives on hand, but they would swarm and ofttimes leave boxes of honey on the top partially filled, much to my disgust. I think I have read of all methods adopted by bee-men generally, and the one generally relied on is to open the hives every 5 or 6 days and cut out all queen cells. This is attended with a great deal of trouble, and if there is a better way I would like to know it. I know swarming is hard to control in the far South; it is much harder here in Missouri than in Northern Illinois, but a gentleman who signs himself "Six," Point Coupee, La., (see August No., p. 213) says he controlled the swarming fever on over 50 hives. I wish he would communicate through the colums of THE AMERICAN BEE JOURNAL how he did it. He would confer a great benefit on me, and I think on others."

"Your biography of Adam Grimm is good so far as it goes. But we would like to know something more of his mode or method of managing his bees, wherein he differed from others, and how he made so much money. It only came through two men to me that he cleared in 5 years from his bees $22,000. We would like to follow his example. Would like to know more of Adam Grimm. His was a great success."

JOHN BARFOOT.

Ingham Co., Mich., Sept. 21, 1876.—"I have a queen that insists upon laying several eggs in each cell, even when there is plenty of room. I have counted as many as nine, and in some cells I have found more than one larvæ. She is very prolific and her stock is a large one, having at present 6 frames filled with brood."

GILBERT THRASHER.

[She evidently needs more room still.—ED.]

Henderson Co., N. C., August 21, 1876.—"Bees have done but little good this summer, either in increase or honey. Sourwood was a complete failure this year; the first time I ever knew it to fail. This has been a bad year for Italianizing, owing I suppose to the scarcity of honey and pollen. The bees gathered poison honey in May, I think, from the hemlock; called by some "dog hobble." The swamps in this neighborhood are full of it." R. T. JONES.

Sangamon Co., Ill., Sept. 15, 1876.—"We have an excellent fall bloom, but much of the time it is too cool to gather rapidly. Spanish needle is in great abundance in all available localities. Smartweed very fine. Just as my bees were commencing to gather, a cider mill, 40 rods distant, was put into operation, and I am "out" on my fall expectations; for it was warm when the cider mill commenced operations. I believe my strong stocks will now winter poorly for loss of bees—but "sich is life." This year has been very favorable for stores and increase, so far as my observation has reached." W. W. CURNUTT.

Stanslaus Co., Cal., Sept. 14, 1876.—"Bees are doing splendidly now, making honey. From 28 stocks (with an increase of 30, making 58) have now taken about 3,000 lbs. of comb honey; if they continue as late as they did two years ago, I expect a ton more. I use the New Idea hive with a cap. I use two sizes of frames, 10x12 and 6x12. I like the low hive the best, so far; have but a few of them yet. I have tried plain wax sheets of various sizes and thicknesses, but with no success. If any of your readers wish to try them, tell them instead of glass or soaped cloth as some recommend, to take a thin, soft board or shingle; dress it down smooth; soak in water; then dip in the melted wax, then in water (cool but not too cold, else it may crack), and they can get nice sheets of wax." J. F. FLORY.

Dubuque, Iowa, Sept. 18, 1876.—"I have 2 acres of a hill which is too steep to mow. I want to seed it to some kind of a grass for a cow and bees. What grass will be best for that purpose?" E. CHAMBERLIN.

[Perhaps you can hear from some one in your neighborhood whether alsike would do well; if so, nothing would be better. White clover would be excellent and would almost certainly do well.—ED.]

Caldwell Co., Ky., Sept. 18, 1876.—"Bees are gathering honey rapidly now, but are storing very slowly in boxes. They have filled the lower part of the hive so full that the queen has no room left to lay in."

MRS. V. M. LARKINS.

Plainfield, Ont., Sept. 18, 1876.—"I am a beginner in the bee business, having had only 3 years' practice. I use the Thomas hive. Two years ago I put in the cellar 28 stocks, but only 11 survived the next summer. I got but one box of honey, but increased to 19, all artificial swarms; 5 of these belonged to others, leaving me but 14. Last spring I had 13, one died and one was queenless. I did not double them with other colonies but gave them some brood comb and bees as soon as the weather would admit, and they raised a queen for themselves. We have had just two months since May for bees—June and July. July was very favorable for bees; they multiplied by the thousand. I have taken between 800 and 900 lbs. of extracted honey, and increased them to 30—all in good condition for winter—and one went to parts unknown. My bees are all Italians and hybrids. I like the Italians best, if for nothing less than handling. The hybrids are cross and hard to handle, but the blacks are worse; for when you raise a card of them, they are not satisfied merely to run but they take the keen jump and form themselves in a string on the lower end of the card. I am in favor of the Italians, both for beauty and because they are so quiet. August has been very dry, with no flowers, and our bees are faring poorly now." A. PARKS.

Wenham, Mass., Sept. 16, 1876.—"The season here has been rather poor for surplus honey. The severe drought commencing in May and continuing nearly all summer dried up the white clover, and very little honey was stored during the month of June. About the 1st of August we had the heaviest rains during the summer, in fact it was about all we have had since the middle of May. After that our bees commenced to work in boxes a little. The honey was gathered from a flower found in the swamps called pepperwood. They worked freely on this for two weeks, and the honey was very nice. For the last 3 or 4 weeks the bees have worked on golden-rod and a flower we call the fall or wild dandelion. The honey gathered from such flowers is of a very poor quality and hardly fit for the bees to eat. Our hives are very heavy in stores and well stocked with bees. The weather has been favorable for honey dews—this was gathered from the elm, oak, and some few other trees. The bees worked on them only an hour or so in the morning, before the sun dried the dew from the trees. Honey dealers in Boston are very cautious about purchasing this season. They are expecting honey by the car-load from California, and intend to pay not over 20 cents per lb., and won't pay over 15 cents if it can be avoided. There are some honest men in Boston but the most of them will compel the producers to give away their products if they can. If they get a man "cornered" he has got to sell low. We used to get 35c. and 40c. per lb. for our honey; now the best offer is 20c. Those fellows in California have raised the deuce with us." H. ALLEY.

Franklin Co., Kansas, Sept. 25, 1876.—"Bees in the open prairie have not more than doubled this year. Since 1st of July strong colonies have stored considerable honey. Still have plenty of forage and will have till frost, whenever that may come."

SMITH TALBOT.

Montgomery Co., Iowa, Sept. 26, 1876.—"I started in the spring with about 60 stocks of bees; have doubled by dividing, and will get about $40 worth from each old stock, mostly box honey." E. D. GODFREY.

Seneca Co., N. Y., Sept. 24, 1876.—"I have 46 hives of Italian bees. They have done well. I have sold about 100 queens." H. O. WRIGHT.

Oneida, Ill., Sept. 21, 1876.—"Please tell me in next JOURNAL if the enclosed flower is golden-rod?—[Yes—ED.] Our fall harvest is almost a total failure. We have had so much rain that bees did not get as much honey as they ate. Have a few pleasant days now and bees are at work on buckwheat (1 acre), heart's-ease, and Spanish needle; but I do not think they will get any surplus for us." WM. M. KELLOGG.

Barren Co., Ky., Sept. 16, 1876.—"My bees have been gathering honey from buckwheat and smartweed for two weeks. They are doing well, and are a great pleasure to me." N. M. GREER.

Paoli, Ind., Sept. 18, 1876.—"Enclosed find a specimen of a honey plant that grows here in the woods, and the bees are working on it now. What is it? We never had as good a spring for bees since I have been in the business, and that has been 4 years. Since June the bees have not done much. Can you tell me the best time to sow buckwheat for honey. I sowed on July 1, and I don't think my bees got enough honey to pay for the seed. When the spring opened I had 6 colonies, 5 in good condition and one very weak in May and June. I took from them, with the extractor, nearly 400 lbs. of white honey. I now have 15 colonies—though some of them are small. If they do not stock up soon I will unite some of them. In wintering, of course I will have to take away one queen. Can you tell me how I can keep her through the winter? It is a shame to kill a nice queen." B. M. LINGLE.

[As nearly as we can make out from the specimen received, the plant is golden-rod. Perhaps you might sow buckwheat a little earlier than July; but some seasons it yields very little, no matter when sown.

We have doubts about your keeping over a queen in any way except in a full colony. A great many have tried it, and we shall be glad to hear if any one has hit upon a plan that has been uniformly successful.—ED.]

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, NOVEMBER, 1876. No. 11.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

BRITISH BEE JOURNAL.

At the annual show of the British Bee-Keepers' Association, Sept. 15–18, we notice that friend Abbott, editor of the *British Bee Journal*, took many prizes for his ingenious inventions—among which we might name: movable comb hives, bee feeders, sectional boxes, and his extractor, called the "Little Wonder."

Mr. John Hunter, exhibited the following American articles: Quinby's smoker; Novice's metal corners, bee-quilt and feeder; Isham's boxes, etc.

George Neighbour & Sons exhibited quite largely and carried off several prizes.

Foul Brood.

"If a hive should be found to contain foul brood, which may be known by the ragged, sunken, and pierced condition of the sealed (?) cells, and by the fœtid nature of their contents, it will be unwise to attempt a cure, for the combs will be worthless, except for the honey they may contain, and the bees being few and old, will not be worth any labor bestowed on their preservation, and it will therefore be good policy (to prevent the disease extending) to give them 'a sharp shift,' either with sulphur fumes or drowning, for where the dire necessity arises, a sudden death is the more merciful."

Bee Food.

"The cheapest and best form of bee-food with which we are acquainted is composed of five pounds of best loaf sugar and two pints of water, to be boiled together, a wine-glass of vinegar and a pinch of salt should then be added, and the whole boiled for a few minutes."

Ligurian Bees.

It will be remembered that on page 241 (September number), while commenting upon an article from the London *Cottage Gardner*, condemning Italian bees, we asked friend Abbott what proportion of British bee-keepers preferred the black to the Italian bees? His answer is as follows:

"The barefaced libel contained in the article referred to is about on a par with the insane assertions made some time since by a positivist named Heddon at the Michigan Bee-Keepers' Association (December, 1875) denouncing bee-keeping as a snare and a delusion, kept up by editors of bee journals, and hive and bee-furniture makers, for their own special profit."

"The man of many assertions who foments trade in England against Ligurian bees, is also deadly opposed to bar-frame hives, and indeed to everything that savors of improved bee-culture honestly carried on. He teaches people how to fill 'shoddy' supers with the contents of the hives called after his own name, than which no others in his opinion ought to exist, and from his dogged persistence in his declarations he undoubtedly believes he is right; and we are content to allow him to enjoy his opinion, and to lead as many others as choose to foliow him. The tide, however, sets in another direction, and improved hives, improved methods of managements, and improved bees, are the order of the day; and for results we will point to the glories of the late Alexandra Show, at the piles of supers, tier upon tier, that dazzled the eye with their beauty, at the magnificent exhibits of the cottagers who, having deserted the 'Pettigrew' system, have come into light and celebrity by aid of the bar-frame principle and the Ligurian bee. Can anything in the annals of the skep compare with the results obtained by the bar-frame principle and Ligurian and hybrid bees in the hands of Cottager Walton, as exhibited at our late show? Has anything in the way of supers ever been produced from skeps which can compare honestly with the magnificent exhibits of Mr. Cowan, in 1874, 1875 and again this year? The boast of the old system is, that sometimes swarms will rise to a hundred pounds weight, which system necessitates the breaking up of the stocks to obtain the honey; but the glory of the bar-frame principle is that a hundred pounds can be taken in supers, forty to fifty or more pounds extracted from the stock-hive, and no harm done."

"Undoubtedly the old skep and its advocates have done the country immense service with the black bee, and in the hands of those who are content 'to drive slowly,' they will, doubtless, retain a place; but as a matter-of-fact, the bar-frame hive and the Ligurians are driving them out of use, and presently black bees, as a distinct variety, will have ceased to exist. We are perfectly sick of the subject; there will always be some who will rail against what interferes with their own pet ideas, and there will be those who will not see advantages which proclaim themselves trumpet - tongued throughout the world; others that having made an assertion, having said a thing, will spend the remainder of their life in sticking to it, be it ever so wrong; and after some

experience with such, we think wise men will *let them alone.*"

BEE-KEEPERS' MAGAZINE.

The Rev. J. W. Shearer gives an excellent article on Wintering, in which he gives the following remarks on

UNITING WEAK STOCKS.

"It is much better to unite all weak stocks in the fall and keep the extra comb in a good dry place to be given in the spring to build up swarms. Bees do not unite so readily after the honey harvest is over as they do in the summer and during swarming time. A little preparation is necessary. Proceed as follows: Select the two hives to be united and take away from each half the combs leaving those that are the largest and best filled with honey and pollen. If these are lacking one may be taken from some old hive which is able to spare it. These two hives will have just the amount of comb necessary for the new. The next day proceed as follows: Preserve the youngest queen for the united colony. To do this find the oldest queen and eage her, to be used should accident befall the other. Then smoke both hives well until they fill themselves with honey. This serves to give them the same scent. They may then be treated in two ways. First, take the combs with adhering bees and place them alternately into the new hive. Second, shake the bees from all the combs in front of the new hive and let them enter after placing the comb alternately in the hive.

The latter is perhaps the best plan. Then close up the hive so soon as the bees have entered, giving good ventilation. It will not do to open them at onee for many of the old bees would return to their old stands and be lost. To prevent this proceed as follows: Keep the new hive closed until about sunset. Close it the next morning and open again at sunset. On the second morning open again and give the hive a few sharp raps. The bees will then take their bearing and return all right to the new hive. It is sometimes a great assistance in uniting, to first sprinkle both hives with sweetened water, into which a few drops of some perfume has been added."

FEEDING.

"Where the winter harvest cannot be relied on the bee-master should feed all the stocks which have not a supply, with good sugar syrup made of the consistency of honey. It should be fed as rapidly as possible to prevent the use of it to too great an extent for making wax and raising of brood. It is not well to encourage the laying of eggs after the last of September when winter food should be given. Up to this time they should be stimulated if no honey is obtained, by regularly feeding a very little syrup at a time so as to have a good supply of young bees for wintering. The syrup should be given about sunset to prevent fighting, and they will take it much more rapidly especially if the evenings are eool if it be given whilst a little warm. It should be fed in the cap or top box of the hive in some good feeder. Perhaps the simplest is an inverted fruit can with a piece of thin eloth tied over the top. Two or three of these may be given, a hive at a time. In a very few evenings, if fed properly, they will receive sufficient. A teaspoonful of cream of tartar added to a quart of syrup will assist in preserving it from crystalization. It should be first dissolved in a little warm water before pouring into the syrup."

WINTERING OUT OF DOORS.

"About the first of November, when cold weather seems about to set in, bees should be fully prepared for winter. If wintered in the open air the following are important points to be attended to. Each hive should in some way be prepared against sudden reverses of heat and cold. The entrances should be towards the south or east with good protection on the other sides. A good evergreen hedge will check the force of winds and prevent disturbance. The hives should sit firmly on legs or benches a little way above the ground to prevent the combs from molding. If large hives are used, division boards on either side closing up to about nine frames of comb will leave an air chamber on each side of the bees. This with a similar protection in front will greatly aid in avoiding sudden changes. It is very important that the front end or entrance should be properly closed. Much the best plan is to have a portico enclosed all around for the aligting board. Into this fix an outer door having *at one end* a small exit for the bees, so that mice cannot enter, and at the opposite side from the entrance into the hive so that no sunshine will fall in the entrance and tempt the bees out when it is too cold to fly. Some fine day in winter this outer door is removed so that the sun can shine full into the hive when the bees will fly out, void their fæces and return in better condition to their hives which are again to be closed."

GLEANINGS IN BEE-CULTURE.

This season Novice has decided to winter his bees on their summer stands. He says:

"Our bees are to be wintered on their summer stands; not a bee is to be bothered by being lugged about, and if they die, it will not be of home-sickness. The greater part will have only the chaff cushions pressed closely down on the frames; some will have chaff on all four sides, some on three sides, and some on only one side. A dozen or more, will be entirely surrounded with chaff, bottom board and all." "Painting bottom boards we find to answer quite well for preventing their being covered with wax and propolis. Some that have been in use two years, are almost as niee and clean as when first given the bees."

GIVING BEES BITS OF COMB.

"We have tried giving bees bits of comb in front of the hives, and find that if the distance is so great they are compelled to take wing, they pack the comb on their pollen baskets; if so near the hive that they can carry it on foot, they bite off bits as before, and then stiek them together in a lump, holding this lump as it appears to us, under the chin, with the aid of the tongue. With this lump of wax, when the bee has about as much as it can earry, it starts into the hive hurriedly, and goes directly to where comb building is in progress, or may be to where cracks and erevices are being

stopped by propolis, for these bits of wax seem to be used for either purpose indiscriminately. When packing it in their pollen baskets, they use a kind of slight-of-hand movement, that is quite puzzling until one has studied it out. A bit of wax is pulled from the comb as before, and is then stuck on the side of one of the middle feet from which it is 'slaped' on to the rest in the pollen basket with a movement so quick that the eye is unable to follow it, and it is only by observing the finishing pats of this limb, that we are able to divine how the wax got to the pollen basket at all."

Cases for Shipping Comb Honey.

"The cases are made of lumber purchased for $11.00 per M. It is planed down to about ¾, and then boxes made to hold 40 or 50 combs just as they hang in the hive, with a pair of handles at each end to carry them by. The handles are simply a prolongation of the sides of the box, whittled round and smooth, so as to be easy for lifting so great a weight—200 to 400 lbs. To keep the combs apart, the rabbets along the sides are notched just right to admit the projecting ends of the top bar, and a three-cornered strip notched in a similar way, is nailed along the bottom. When the cover is screwed on, every frame is secure in its place. He receives the same price for comb-honey put up in this way, as for that in the sections—20 cts.—but receives the frames and cases back."

Chaff Cushions.

"Our house apiary is supplied with chaff cushions, and we are rejoicing to find them answering the purpose so well. These cushions are made of two pieces of Indian head muslin, 17x21, joined by a band 6 in. wide, so that we have a box of cloth as it were; we prefer to use the band, as it leaves the ends and sides square, making a close fit to the sides of the hives, or to each other when placed in the house apiary. The night they were put on, the temperature outside was down to 40 deg., in the house 60 deg., and a thermometer put under one of the quilts for a few minutes, showed 80 deg. Before putting on the cushions a pretty strong hum was heard during cool nights, but now we hear not even a 'whisper.'"

Bee Language.

Concerning the question of bees communicating with one another, Novice reports the following test:

"Yesterday (Oct. 18th), the door of the honey house by some means got open, and at noon we found them doing a 'land office business' on our sections of comb honey. The door was closed until they were all on the glass, and then opened just long enough to let them out. As a fresh army rushed in at every opening, it was some time before all were out, and as each lot rushed laden into the hives, a swarm of workers came out and made straight for the door way. At night they had given up buzzing around the door, and a feeder was placed in front of a hive which we watched until a few bees were ready to go inside with a load of honey; almost as soon as they were out of sight, a lot came tumbling out, and went straight to the door of the honey house. More kept coming, and we finally were convinced that they only know when a bee comes in laden, that it has obtained its load *somewhere*, and that the only way they have of finding it, is to scatter about in every direction until they find it."

Feeding Bees—Movable Frames.

The Rev. L. L. Langstroth says:

"When feeding large colonies in July and August to encourage the preservation and production of drones, I used old discarded fruit cans, putting in them two or three small pieces of corn cob, and one long one. These were placed in the portico about dark, removed next morning and set on the ground near the hives, so that they could be readily refilled and replaced in the evening. No robbing, no bees lost in the food. After two or three feedings the bees were as conscious of the time for feeding as our barnyard stock, parading impatiently over the floor of the portico, and finally swarming upon the can as soon as we had left it. If two cobs are tied together, one to be in the can, and the other outside so as to rest on the portico, a strong stock will empty the can in quite cool weather."

On the subject of movable frames he says:

"By all means let the old and new systems be tried by *experts*. I have no doubt that many are "dabbling" with frames, who would be much better off if they used the old gum, and the sulphur pit."

"The fact cannot be questioned, that for some reason the race of bee-keepers who make bee-keeping profitable without movable frames is fast dying out. Is there among them one who can compare, for success, with Capt. Hetherington, or the late Adam Grimm?"

"Let me call the attention of your readers to a single point, the rapidity with which after the most disastrous winters an apiary is re-established by those who have control of the combs, while similar losses with the box hives are irreparable."

"As friend Heddon has used movable frames and now returns to the old box, with supers for surplus, his reports will be looked for with all the greater interest. If all our fancied improvements are only 'fuss and feathers,' or at most beneficial to scientific amateurs, the sooner we know it the better, even if we should be as much surprised as any traveler on a first-class railroad car, would be if called to give it up for a comfortable seat in an old-fashioned stage coach."

Fifty Dollars Damages.

Novice was foolish enough to ask every one who had bought foundation of him, and were not satisfied, to send in their bills for damages. H. A. Burch sent in a bill for $50, which was paid, but Novice sent with it an appeal for mercy on his hard earnings. He adds that a few more such claims for damages would prevent him from continuing to publish *Gleanings*. Mr. B. thinks the foundation was $150 of damage to him, but he was modest, and asked only $50.

Novice should withdraw that "offer" at once. The existence of *Gleanings* should not be thus periled.

MOONS' BEE WORLD.

Domesticating Bees.

Friend Moon remarks that "Bees can be learned to come at *call*," and then adds:

"We plac d a swarm in a dark room upon the floor. We fed in flat dishes with floats to prevent the bees from getting into the food. At first we had to rap on the hive to call them out. As soon as they found that their food was administered in that way, they were n t slow to come for it. We soon found that when we entered the room, with or without food, in the dark, and at the distance of 8 to 10 feet from the bees, by gentle raps on the floor, they would come to us by thousands. If we changed to another position they would follow us, always peaceable and kind."

Introducing Virgin Queens.

E. C. L. Larch gives the following as his method of introducing a virgin queen:

"She must be not more than a few hours old—the sooner after hatching the better. Place her on a comb where there is plenty of honey and close the hive. I have only succeeded in introducing one virgin out of several that were over twenty-four hours old, and she was caged 6 days in a hive with a laying queen. When the laying queen was removed, she did not commence laying until about 2 weeks old. I prefer to give to each new colony or nucleus a queen-cell, nearly ready to hatch, and then waiting about 6 hours. If I have the time, should several queens hatch at once unexpectedly, and they are discovered before being killed, I endeavor to save all that I can by giving all the surplus queens to nuclei at once.

☞ "Mr. Boardman says he feeds his bees with a composition of one spoonful of sugar, boiled in four spoonsful of water, to which is slowly added, (stirring always) half a spoonful of wheat flour. It has the appearance of white honey and answers the purpose very well. The above preparation can be increased to pounds, quarts, &c., if large quantities are required."

☞We issue this number of The American Bee Journal a few days earlier than usual, in order to permit the publisher to attend the National Convention and Honey Show at the Centennial grounds, from Oct. 25th to Nov. 1st; a full report of which may be expected in our next number.

The publisher has gone to the Centennial Meeting, at Philadelphia, and will not return till the 4th of November. So those writing to this office before that time, must not be disappointed if they do not get an immediate reply.

☞No class of business suffers from the hard times more than the business of publishing a newspaper. Three-quarters of the newspapers published in this country are not paying expenses.

☞Among our many callers this month, we may name Mr. T. F. Bingham, of Abronia, Mich. He has already sent his bees to the South to winter. He has 200 colonies. He has a ton of comb and 1,500 lbs. of extracted honey.——Mr. Staples, of Columbia, Tenn., of the firm of Staples, Andrews & Vaughan. They have 400 stands of bees, and have sold a large lot of queens and bees this season as well as produced much honey.——Mr. R. R. Murphy, of Fulton, Ill., who was on his way to the National B. K. Convention. His extractor has already been awarded a premium by the Centennial Committee.——Mr. E. Osburn, Jackson Co., Iowa, also called. He has 56 colonies, many of them having given 100 lbs. of comb honey each. He has a ton of box honey now on hand.——Mr. George Thompson, of Geneva, and Mr. James Marvin, of St. Charles, of Kane Co., Ill., spent a pleasant hour with us. The latter has several tons of extracted honey; having sold his box honey, at 20 cts. per lb. in the quantity.——Many others have also given us a pleasant call, whose names we do not now remember. All of them, however, report a good honey harvest.

☞The Governor of the Province of Quebec, Canada, has just decreed that bee-keeping be taught to the pupils of the Normal School of Montreal. Mr. Thos. Valiquet, of St. Hilaire, has been appointed lecturer. We congratulate the Governor on his decision, and the superintendent of the schools upon the appointment of this experienced bee-keeper. He could not have made a better choice.

☞Mr. H. Alley, Wenham, Mass., has sent us one of his Smokers. It is a tin tube with a mouth-piece in one end, and a small tin tube in the other to force the smoke through. Mr. H. sends the following, descriptive of it and its use:

"I have used these pipes for the past 18 years, and hardly know how I could get along without one. I have taken 20 queens from nuclei hives by the use of one of these pipes, and put them into mailing boxes, without re-loading or re-lighting the pipe. Have opened and examined 4 Langstroth hives by the use of one of them; there is no trouble about the pipe going out. I hold it between my teeth and direct the smoke to any part of the hive I desire. If the bees attempt to run up from between the combs, I blow the smoke on them, and they soon get out of my way. I find it very useful when removing boxes or introducing queens."

Agents.—We want a good agent in every section of the United States and Canada. Such are invited to correspond with us.

An Old Bee Book.

Books are landmarks in the field of truth; milestones on the highway of knowledge. Not many years ago, some laborers while excavating in Broadway, N. Y., came upon an old milestone that still persisted in saying, "One mile to New York," though it was found in the very heart of that great metropolis. In like manner, old books often show themselves to be far behind the times, by their now obsolete contents, but in some cases they surprise the reader by showing that items of knowledge supposed to be new and modern, are very old and time-honored.

Both these remarks find numerous illustrations in a bee-book published sixty-two years ago in London, England. We came upon it while scanning a highly-varied assortment of second-hand and old publications, exposed for sale at a book-stall in an Eastern city. Originally sold at eight shillings sterling, an outlay of forty cents constituted the writer its happy owner, and it is no exaggeration to say, that the costliest new novel of the age, would not be half so interesting to an intelligent bee-keeper, as this now venerable volume.

The title-page is as follows: "A treatise on the breeding and management of bees, to the greatest advantage. Interspersed with important observations adapted to general use. Deduced from a series of experiments during thirty years. By John Keys. A new edition." This "new edition," the writer states in his preface, is in reality a new book. He says that in 1780, he "ventured to publish a work of this kind," according to the best knowledge and experience he then had. Now, thirty-four years later, the author, "in the vale of life," discovers, that as the result of his researches, observations, and experiments, he differs to such an extent from himself, that "instead of a second edition, a new book became necessary."

There are few active-minded men, bee-keepers or others, who do not differ amazingly from their former selves, both in opinion and practice, after the lapse of thirty-four years!

In the course of the preface, the author assures "apiators" that to the best of his knowledge, "every hint or information that has been found of any real service, in any writer of note, foreign or domestic, is comprised in this volume." A foot-note contains a list of these writers, and we own ourselves not a little astonished, at the number of names given. "Butler, Mew, Geddy, Purchase, Wolridge, Rusden, Warder, White, Thorley, Mills, Wildmans, Debraw, and Bromwich. Foreigners: Miraldy, Reaumur, Bonnet, Shirach, Needham, Norton, Seykers, and others of less note." It is rather extraordinary that Huber is not included in this enumeration, for it was reading the works of Reaumur and Bonnet, that interested him in the study of bee-life, and long before 1814 he had become widely known as a writer in that department of natural history. Indeed it was in 1814, that his numerous papers published through various channels, were gathered into one collection. He probably ranked then among "others of less note," though he subsequently became more distinguished than any of them. It is safe to infer that Keys was not much indebted to Huber, or there would have been more distinct acknowledgement of obligation to him.

The preface further states that within a few years, "warm disputes" had arisen between different naturalists and apiarian societies on the continent, "relating to the generation of bees, and the formation of artificial swarms in consequence of some new and wonderful principles advanced by a Mr. Schirach, secretary of an apiarian society. "Eight years of experimenting at the cost of much loss and disappointment had convinced Mr. Keys that Schirach's method cannot prove of public utility.

By way of redeeming this introductory paper from dullness, we append a few amusing extracts from Chapter I., illustrative of the queer ideas about bees that were in vogue 64 years ago. Speaking of the queen, he says, "The more full of eggs, the more yellow is her belly." Note this, ye breeders of Italian queens and let it settle for ever the controversy about light and dark queens! "She is five times longer in laying a royal egg, than a common one." "The queen is impregnated about August, by virtue of which she is enabled to breed in the spring, till she produces fresh drones." The idea of one impregnation for life, had not dawned on the apiarian world at that date. Drones are said to be discarded late in the season, because at that time they have become "devoid of the spermatic milky liquor." The large number of drones found in a hive, is accounted for because "the queen, containing some thousand eggs at a time in her body demands a larger supply of the prolific juice than a few drones are equal to furnish." This is noted as a matter of wonder, "the many thousand times I have observed drones in the combs, I never beheld one with its tail in a cell." Like

modern "apiators," Keys had an intense curiosity to procure a complete view of an intercourse between a queen and a drone, but alas! he died without the sight. By confining a queen and a drone under a glass tumbler, he had "several times been witness to those amorous preludes recorded by Reaumur." The queen would "caress the drone, frequently repeating such wanton gestures as would stimulate a torpedo, or any other male but a drone!" He repeatedly witnessed "a royal duel," under a tumbler glass between two queens taken from different hives, which always "terminated in the death of both." Describing a bee-dress, he says among other things, "an apron before will be useful to prevent these prying insects from tickling the belly." He adds, "Women should not meddle with bees, without this bee-dress; nor then, without the addition of a man's coat, and I had almost said, breeches also."

It will be highly unfair to conclude from the above extracts that the book as a whole is comical and laughable. On the contrary, it is wonderfully stored with good, sound, practical advice about bee-keeping, and some parts of it show that we have not made such prodigious advances in the art, as we are sometimes prone to flatter ourselves. But this article is already quite long enough, and we must reserve a further notice of this old bee-book for a future number or numbers. W. F. C.

New Zealand Clover and Bumble-Bees

The following is an item that has been "going the rounds" among the newspapers of this country:

An interesting experiment has been made in the shipment of two nests of bumble-bees from Plymouth, England, for Canterbury, New Zealand. The principal object aimed at in the introduction of these insects into the antipodes is the fertilization of the common clover, the pollen of which the common bee is generally unable to collect, while the bumble-bee, having a longer proboscis, and being much stronger, is able to reach sufficiently deep into the flower to collect the fertilizing dust.

Incidentally bees do fertilize plants, by scattering the pollen that adheres to their legs from the flowers they work on. But what can "two nests of bumble-bees" do for the salvation of the clover of so extensive a country as New Zealand? Surely it must be in a direful condition if it is dependent upon "two nests of bumble-bees" for its prosperity!

☞ Read our list for Clubbing papers.

Our Premiums for Clubs.

A. G. Hill has sent us one of his Gas Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before January 31, 1877. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

D. A. Pike will present one of his beautiful Albino Queens—whose progeny will be one-half Italians and one-half Albinos—to the getter up of the *second* largest club of subscribers. The Albino will be sent, postpaid, May 1, 1877.

We will add the following:

For the *third* largest list, we will send a tested Italian queen in May, 1877.

For the *fourth* largest list, we will send 500 young tulip trees (4 to 8 inches high) in April or May, 1877.

For the *fifth* largest list, we will give a copy of THE AMERICAN BEE JOLRNAL for 1877, post-paid.

For the *sixth* largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 296 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once.*

Bee-Keeping in Utah.

The editor of the Utah *Pomologist* gives his experience in practical bee-keeping in the following language:

Seven years ago we obtained a hive of bees, and from this colony have produced over *four hundred* colonies.

Last year we had no swarms, and this year but one, from 150 hives. At the swarming time we looked for queen cells and found none for these two years, though the hives were full and in good condition, so we concluded that they had been so widely propagated by division that their instinct for swarming had disappeared, and no queen cells are formed in spring as usual.

Our bees did splendidly all the early part of the season and filled up very handsomely, but when the dry weather came, few blossoms were left, and they produced little nectar, the bees fell upon broken and injured fruit, and laid up but very little honey. We must plant our bees in a five acre lot of mignonette, and then we shall not look in vain for plenty of sweets all the season.

☞ Out of 40,000,000 people in this country, about 70,000 are bee-keepers and these send to market about 15,000,000 pounds of honey and wax yearly, representing in value $3,676,763 for the former, and $189,388 for the latter.

The Cause of Foul Brood.

More than two thousand years since, Aristotle described this terrible plague; it is, therefore not of modern origin. This disease, causing larvæ to die in the cells, and creating a foul stench which permeates the hive, bringing death to its inhabitants, has been a subject for discussion for many years; and anything that tends to throw light upon it will be of interest to the readers of THE AMERICAN BEE JOURNAL. Dr. Schonfield, of Germany, has lately made a variety of experiments with it, and we present our readers with the following extracts from his paper, which has been translated by Mr. J. S. Wood:

Dr. Dzierzon proposed, by the wish of the editor (of *Bienen Zeitung*), at the last (Vandreforsamlingen) exhibition at Saltsborg, the following question: "What is to be looked upon as decided relative to foul brood, both as regards theory and practice, and what remains now undecided?" But, although he laid all his views and his name's influence in the balance in favor of the correctness of the Preusziske theory, he must still acknowledge that the incontestable proof was wanting, as at the conclusion of his answer he declared, "If also the theory brought forward by Dr. Preusz should prove correct, yea, even if it Is the most probable, so is yet the question—cause, the sickness's real nature—eveu now enveloped in obscurity." Thus we stand in relation to the problem which I previously stated:

Firstly. It must incontrovertibly be proved that the spores of the fungus leave the dried-up foul brood, and they must, inasmuch as they float in the air, be able to be caught.

Secondly. It must next be shown that such fungus spores, that are caught in the atmosphere, when placed on healthy larvæ, can grow and increase to an uncountable number, until at last they kill the brood, and so prove themselves the cause of the sickness.

Although the problem appeared difficult, I went even confidently to the work. I wrote immediately to Herr Locher, in Sigmaringen, and asked him for a little foul brood. The 18th of June I received, enclosed in a letter, so much as I could form into a ball about the size of a pea. The substance was very dark, nearly black, moist, and tenacious, and its odor was exceedingly disagreeable. A careful examination under the microscope proved the presence of fungus of the same form as Micrococcus. Had I, after having solved my problem, began first to show that the spores could escape through the fly-holes (entrances) of hives containing foul brood, it would have been necessary for me (in order to have obtained such a hive) to dissolve the infectious substance in water, and therewith sprinkle a comb containing healthy brood. It is most probable that such a proceeding would have failed, as the bees would most surely have cast out the dead larvæ and pupæ before the artificially produced sickness had had time to develop itself fully, and infect the whole hive. In every case there would have gone a much longer time by that means before I had arrived at the result. I had not, however, in the mean time the opportunity, as I already wished to discuss my experiment at Halle. I, therefore, immediately made the experiment to catch the spores that were escaping, and were floating in the atmosphere, from the infected substance that had been sent me, and thereafter use them for infecting healthy brood. For this purpose I constructed the following apparatus: On a smooth-planed board I placed a bell-glass, in the top of which was a round hole; in this I fixed a glass tube two feet long; there was also fixed a similar glass tube in the board. In the top of the uppermost tube was fixed a plug of cotton-wool, as also in the under end of the bottom tube, and the wool was not pressed tight, but so that the air could circulate freely through both tubes.

The foul brood substance that I had received from Herr Locher, was now placed under the bell-glass on the 21st of June, and left to dry slowly. If, then, the assertion that the spores escaped in the air when the substance was dry was correct, then it was only necessary for me now and then to place the apparatus by the window in my study, and expose it to the full influence of the sunbeams, as if the air in the bell-glass, by the power of the sunbeams, was warmed up to 40 deg., it must, by a well known physical law, escape through the uppermost tube, while the cooler air from the floor of the study must enter the bell-glass through the bottom tube, and at the same time it was quite as certain that therewithal the spores of the fungus, that were carried by the upward currant of air, would be caught in the wool above.

On the 5th of July, on which day the substance was quite dry, until the end of the month, I got four plugs of wool, each of which had served as the top plug for about eight eays; besides these I had two pads of wool, each of an area of about four square inches, which I had placed inside at the top of the bell-glass.

Had the spores from the substance really been escaping? and had the wool caught them as they were coming out into the world? All rested on the answering of these questions; and examination gave the following results:

1. When quite a small portion of the wool was washed in distilled water, and thereafter a drop of this water placed under a microscope, it showed a considerable quantity of fungus Micrococcus.

2. If a plug of wool, as large as a pin's head, was laid dry on a piece of glass thereafter moistened with distilled water, and placed under the microscope, the Micrococcus could be seen partly in the water, and partly adhering to the threads of wool.

3. If the wool was examined dry it was difficult to see the Micrococcus, and it could only be seen by aid of the strongest lens, and through three objectives.

4. Of gun-cotton, of which I had two plugs, which were prepared with water as sub. 1 and 2, Micrococci were to be seen in still greater quantities than in the ordinary wool, probably because the one is finer and better suited to retain the spores.

Thus, by a practical method, I have solved the first part of my problem; and it is without a doubt proved, though in an unequal degree, that the spores of the fungus

from the dried-up matter escape, and are borne away by the atmosphere.

Therefore there cannot be the slightest doubt of the fact, that in consequence of the bees ventilating so strongly as they so often do, that the spores must be driven out of a severely infected hive in very large quantities.

When V. Molitor-Muhlfeldt, in order to refute this assumption, declares that there is no circulation of air in a bee-hive, but that, owing to the motionless air, the spores must sink down, and not pass from cell to cell, it sounds almost as if he had no idea of ventilation being caused by the bees, and as if he had not read paragraph 3 of Von Berlepsch's *Der Biene*. When Gunther has succeeded in working a small windmill of paper by placing it at the entrance of a hive containing a strong stock, then it is evident that the circulation of air produced in the hive by the bees must, in proportion, be a much stronger hurricane for these light spores than any such hurricane Von Molitor-Muhlfeldt has witnessed on the earth. And when the same opponent declares on the whole that the atmosphere cannot be the bearer of the infection, so has that invalid assertion been so thoroughly refuted by Dr. Ulde, of Halle, that I will not waste a word on the subject.

It is quite certain that it is not over all, and at all times, that the atmosphere will contain such a quantity of seed-germs; and Dr. Preusz goes too far when he declares that the atmosphere is *everywhere loaded* with these germs. If such was the case, foul brood infection would appear in every district where there are bee-keepers; but there can be shown many districts where this disease is quite unknown; as in my district, up to the present time, it has not appeared.

I certainly succeeded in producing a whole comb of dead rotten and stinking brood; but although I experimented with this comb in the most various ways, placed it at the fly-hole at the open door, and exposed to the sun's warmth and the atmospheric currents about my pavilion, I, after examination, found no more fungus than Fischer, who never had anything to do with foul brood.

Where there is no fungus present, there can never arise infectious foul brood.

Herewith we have approached nearer to the solution of the second part of my problem.

It next requires to show and afterwards to prove that pure fungus collected from the atmosphere by means of cotton wool, has the power to kill larvæ, and by so doing cause foul brood. To do this, I took, on the 30th of July, a comb with brood from a first swarm, brushed off all the bees, and covered about 100 larvæ with wool, which was made fast by means of some thread. The comb was hardly replaced again before the bees attacked the wool, and commenced casting it out in small pieces. On examination of the comb on the 1st of August, it showed that all the larvæ that had been covered with the wool were cleared away by the bees. Three larvæ above the previously closed cells died shorty after the bees had sealed the cells which they were in. The bell-covers were sunk, and the well known small hole was in the centre.

After this, about 100 other larvæ were covered with wool; but again, as also a third time, the larvæ and wool were torn out. I had nearly lost my patience, and I had only now two plugs and one of the squares left, which should be used for other experiments.

I now, rather anxiously, for a fourth time covered a brood-comb, and this time, fortunately, the bees let most of the brood remain in the cells. After an interval of four days, 7 larvæ died. An instantaneous and conscientious examination, by aid of the microscope, revealed the presence in their bodies of immense numbers of Micrococci.

Unfortunately, I was obliged now, on the 12th of August, to defer my experiments, as I could not postpone for a longer time a Bath tour on which I should have started at the beginning of the month. I forgot now to slide in a wire netting to prevent those larvæ that remained being torn out by the bees, but on my arrival at home from the Baths I found all in the best order.

Still the fact that Micrococcus possesses an enormous power of infection, and that it also attaches itself to perfectly healthy brood until it kills them, cannot longer be denied. As incomplete (which I myself acknowledge) as the above proof turned out, owing to the scantiness of material that I had at my disposal, and the haste with which I was compelled to operate, as strikingly and as unrefutably have I succeeded by another process to prove it.

As I at once saw beforehand that under the circumstances before mentioned, and the well-known strong propensity of every strong hive of bees to remove as quickly as possible every sickly or dead larva from the hive, it would be extremely difficult to arrive at a complete and satisfactory result, so the idea occurred to me to try the experiment of infection on the larvæ of other insects, which it would be possible to observe without obstruction.

As specially adapted for the purpose of this experiment, it occurred to me that the larvæ of the blow-fly would be the best, as these larvæ especially possess an extraordinary vitality, that, notwithstanding its voraciousness, it suffers hunger and thirst, and in defiance of its nudity, can withstand cold and heat most astonishingly; and besides the above, this insect resembles the bee in its development, insomuch as it is as larva 14 days, and it is as pupa about the same length of time. I could, without difficulty, procure and nourish these larvæ, and, what at that time was of most importance, I could take them with me to Johannisbath, and there comfortably observe them under the ordeal.

I, therefore, on the 11th of August, laid a juicy piece of meat in the window, and a fly of metallic lustre, desirous of laying, soon deposited a heap of eggs on it. The next day about 100 were hatched, and these grew with their well known rapidity. The second day of my stay at Johannisbath, to where, of course, besides these larvæ, I brought my microscope, some of the wool that contained the fungus, and also a few bell-glasses, under which latter I placed three separate sets of larvæ.

The first and second had each ten, and the third the remaining larvæ. The larvæ under the first bell-glass on the same day, together with the meat which was their resort, were covered with wool. Six days after this the larvæ attained their normal size, and this without my being able to

detect the slightest unhealthiness; on the same ten larvæ, under the same bell-glass, and on the top of the wool, I laid a fresh piece of meat, which, together with the wool, was well saturated and smeared with the excrement of the larvæ.

Two days afterwards, seven of the larvæ were dead; some lay on their backs, others on their sides, but all were stretched out. The others lived and transformed after one, two, or three days' interval.

A very careful microscopical examination the next day of a dead larva showed that the whole surface of its body was covered with Micrococci. I might wash any portion of the larvæ and examine the water; I might place the minutest piece of skin under the objective and then moisten it, but always the same result—Micrococci in innumerable numbers.

As the remaining six larvæ soon decomposed, three of them were dried on a piece of wadding so that they could at a latter date be used for experiments of the same kind. Again, two were examined while decomposing, and were found full of uncountable Micrococci; and these last were spread on a piece of meat and given as food to the ten larvæ in the second bell-glass, which, up to this time, had not shown signs of transformation. While we for the present leave these ten unfortunate victims to their fate, let us turn to the three pupæ, which, to all appearance, fortunately have transformed, and whose cocoons gradually get of a darker color.

Our first closer examination convinced us that they were dead, as the cocoons here and there were sunken in. Two of them that I cut out of the middle in the direction of the length revealed such large quantities of Micrococci fungi, that they, without a doubt, must be acknowledged as the cause of their death.

The third pupa, like the three before mentioned larvæ, was reserved for future experiments.

When I to the above add the ten larvæ from the second bell-glass died berore transformation, after a few days' interval, being the result of having eaten their fungus—containing sisters—that one larvæ that I examined before its death already contained an enormous amount of fungi, and that all the others after death proved to be full of fungi inwardly—more especially in the intestines—while the larvæ in the third glass transformed and came into existence as flies, that I for many days bent over the microscope, and had examined more than a hundred pieces; so there can be no longer doubt of the fact that Micrococcus also infects perfectly healthy larvæ, and in the end kills them.

This result, willingly and without opposition, will be accepted by the scientific, as there is nothing to find therein that is opposed to experience or research.

Herr Molitor Muhlfeldt rightly enough declares in answer to my earlier articles, that no fungus-spores can take root on the undamaged skin of healthy animals, because the main principle—the suitable underlayer—is only found when the animal is unhealthy, or when about and unnoticeably has already begun to decompose or dissolve; and this assertion does not allow of scientific proof. And even if it were correct, Dr. Preesz's theory is by no means refuted thereby, or even threatened, as in reality every larva that is seized by infection, finds itself in an extremely sickly state, which may be traced to another cause.

In general, the larva dies soon after the cell is closed, and before it envelops itself as a pupa; during the time that the larva changes itself to a pupa; not alone the skin of the larva decomposes, but the larva, certainly as the result of the natural metamorphosis, finds itself in a sickly condition, and to every deadly attack peculiarly and specially adapted for infection.

We could, therefore, if we might allow Muhlfeldt's assertion a little attention, very easily say at the sickening time of preparation for transformation, and during transformation, the dying and decomposing skin of the larva is the very best and most suitable condition for the support of the fungus' growth so that it multiplies at a rapid rate, and kills the larva before transformation is at an end. Therefore, since Dr. Preusz and Vogel, at Saltsborg, have given the decided assurance that there are always found Micrococci in foul brood, and since I have practically proved that healthy brood can be infected by Micrococci, so can there no longer be doubt that where foul brood appears as an epidemic, there the infection is produced and carried to effect by Micrococcus.

The Situation of an Apiary.

It is two thousand years since Columella lived and penned his thoughts about bees. The following is his advice for the the situation of an apiary, and it will be interesting to the many readers of THE AMERICAN BEE JOURNAL.

It were desirable that it face the south, and be situate in a place neither too hot nor too much exposed to the cold. That it be in a valley, in order that the loaded bees may with greater ease descend to their homes. That it be near the mansion house, on account of the conveniency of watching them, but so situated as not to be exposed to noisome smells, nor to the dim of men or cattle. That it be surrounded with a wall, which, however, should not rise above three feet high. That, if possible, a running stream be near them; or, if that cannot be that water be brought near them in troughs with pebbles or small stones in the water for the bees to rest on while they drink; or that the water be confined between gently declining banks, in order that the bees may have safe access to it, they not being able to produce either combs, honey, or food for their maggots without water. That the neighborhood of rivers or basins of water with high banks be avoided, because winds may whirl the bees into them, and they cannot easily get on shore from thence to dry themselves. And that the garden in which the apiary stands be well furnished with such plants as afford the bees plenty of good pasture. The trees in this garden should be of a dwarf kind, and their heads bushy, in order that the swarms that settle on them may be the more easily hived.

☞Mrs. Tupper has been released from custody at Davenport, having given bonds for $800 for her appearance at court.

The Dzierzon Theory.

DEAR EDITOR:—I am but a beginner in bee-keeping, and I see in THE JOURNAL that you often speak about "the Dzierzon theory." Will you oblige me and others by giving a synopsis of that theory in THE JOURNAL? JULIUS JOHNSON.

The "Dzierzon theory" was by the Baron of Berlepsch formulated into thirteen propositions, which are as follows:

FIRST.—A colony of bees in its normal condition, consists of three characteristically different kinds of individuals—the queen, workers, and (at certain periods) the drones.

SECOND.—In the normal condition of a colony, the queen is the only perfect female present in the hive, and lays all the eggs found therein. These eggs are male and female. From the former proceed the drones; from the latter, if laid in narrow cells, proceed the workers or undeveloped females; and from them also, if laid in wider, acorn-shaped, and vertically suspended, so-called royal cells, lavishly supplied with a peculiar pabulum or jelly, proceed the queens.

THIRD.—The queen possesses the ability to lay male or female eggs at pleasure, as the particular cell she is at any time supplying may require.

FOURTH.—In order to become qualified to lay *both* male and female eggs, the queen must be fecundated by a drone or male bee.

FIFTH.—The fecundation of the queen is always effected outside of the hive, in the open air, and while on the wing. Consequently, in order to become *fully* fertile, that is, capable of laying *both* male and female eggs, the queen must leave her hive at least once.

SIXTH.—In the act of copulation the genitalia of the drone enter the vulva of the queen, and the drone simultaneously perishes.

SEVENTH.—The fecundation of the queen once accomplished, is efficacious during her life, or so long as she remains healthy and vigorous; and she never afterwards leaves the hive, except when issuing with a swarm.

EIGHTH.—The ovary of the queen is not impregnated in copulation; but a small vesicle or sac situated near the termination of the oviduct, and communicating therewith, becomes charged with the semen of the drone.

NINTH.—All eggs germinated in the ovary of the queen, tend to develop as males, and do develop as such, unless impregnated by the male sperm while passing the mouth of the seminal sac or spermatheca, when descending the oviduct. If they be thus impregnated in their downward passage (which impregnation the queen can effect or omit at pleasure) they develop as females.

TENTH.—If a queen remains unfecundated, she ordinarily does not lay eggs. Still, exceptional cases do sometimes occur, and the eggs then laid produce drones only.

ELEVENTH.—If, in consequence of superannuation, the contents of the spermatheca of a fecundated queen become exhausted; or if from enervation or accident, she loses the power of using the muscles connected with the spermatheca, so as to be unable to impregnate the passing egg, she will thenceforward lay drone eggs only.

TWELTH.—As some unfecundated queens occasionally lay drone eggs, so also, in queenless colonies, no longer having the requisite means of rearing a queen, common workers are sometimes found, that lay eggs from which drones, and drones only, proceed. These workers are likewise unfecundated; and the eggs are uniformly laid by some individual bee, regarded more or less, by her companions as their queen.

THIRTEENTH.—So long as a fertile queen is present in the hive, the bees do not tolerate a fertile worker. Nor do they tolerate one while cherishing a hope of being able to rear a queen. In rare instances, however, exceptional cases occur. Fertile workers are sometimes found in hives immediately after the death of the queen; and even in the presence of a young queen, *so long as she has not herself become fertile.*

Bee Products in the U. S.

The census of 1870 returns only 136 apiarists—meaning of course that there were only that number who gave that as their exclusive business.

The bee products as returned by the census, was 14,702,815 pounds of honey and 631,129 pounds of wax in all the United States. The States producing over 50,000 pounds of honey are as follows:

Alabama	320,674
Arkansas	276,824
California	294,326
Florida	50,884
Georgia	610,677
Illinois	1,547,178
Indiana	395,278
Iowa	853,213
Kansas	110,827
Kentucky	1,171,500
Maine	155,640
Maryland	118,938
Michigan	280,325
Minnesota	92,606
Mississippi	199,581
Missouri	1,156,444
New Hampshire	56,944
New Jersey	60,536
New York	896,286
North Carolina	1,404,040
Ohio	763,124
Oregon	66,859
Pennsylvania	796,989
South Carolina	194,253
Tennessee	1,039,550
Texas	275,169
Vermont	142,932
Virginia	505,239
West Virginia	376,997
Wisconsin	299,341

Illinois, it will be seen, stands first in the order of honey-producing States, the next largest being North Carolina, Kentucky, Missouri and Tennessee, each of which produced over 1,000,000 pounds. Only these, and six other States, produced over 500,000 pounds.

Physiology of the Honey Bee.

To the student of nature, a colony of bees presents a scene of the most lively interest.

If we draw from a hive a sheet of brood comb, and look into the cells, we will find small, ovoid-oblong bodies, slightly curved and of a pearly white color attached to the bottom of the cells by one extremity. These

ITALIAN QUEEN.

are the eggs from which young bees are to be produced. If found in the coarser cells which measure four to the inch a drone or male bee will be hatched.

The drones are not believed to be of any use in the hive, unless they are sometimes useful in keeping up the animal heat, but it

HEAD OF THE QUEEN.

is not likely that there is any economy in this, for the same weight of worker bees would probably make just as much heat. The sole office of the drone is the impregnation of the queen, which takes place at a distance from the hive, high up in the air. As the one act of impregnation is effective during the life of the queen, a single drone

ITALIAN DRONE.

ITALIAN WORKER

for each hive might seem enough. Instead of this, there are usually hundreds, which secures greater safety for the queen when she goes on her bridal trip. The aim of the apiarist, however, is to generally suppress the large production of drones, which is easily done by keeping only a small amount of drone comb in the brood chamber.

If an egg is laid in one of the smaller cells which measure five to the inch it will produce a worker.

HEAD OF THE DRONE.

The workers are undeveloped females, and they are rightly named, as they do all the work, cleaning the hive, feeding the young, building the combs and gathering the honey and pollen.

If an egg be found in a queen cell, or if an egg is laid in a worker cell and the cell much enlarged, the larva being bountifully fed, a queen will be produced.

The queen is the only fully developed female in the colony and in general only one will be found in each hive. She is rightly named by the French, the "mother" bee, as she is the mother of all; her only business being to lay eggs, and during her time of laying, which is most of the year, she does not even feed herself, but is fed from time to time by the workers.

The three kinds of bees are readily distinguished by their general form, and the magnified cut of a head of each, given herewith, will show differences not so readily noticed without the aid of the microscope.

HEAD OF THE WORKER.

The mandibles or biters are different and the eyes of the drone occupy most of its head. The eye of the bee is compound, being made up of a great number of single eyes, and in the forehead of each will be seen three single eyes. These three single eyes are round, and the facets or little eyes in the compound eyes are six sided, probably on account of their compression by the surrounding facets.

Correspondence.

For the American Bee Journal.

Drones.

In a paper published in THE AMERICAN BEE JOURNAL for July, page 188, Mr. Geo. Thompson urges the importance of looking more to the drone, as a means of improving the Italian bee. His conclusions are proper enough for him to maintain, and would probably do but little or no harm were it not for two reasons, which impel me to claim some space in the JOURNAL, for the purpose of showing their fallacy.

First. He supports his theory by quotations from Dzierzon, Berlepsch, Vogel, and Langstroth, which are, to some extent, in point. Now I assume that the opinions and theories of any and all of those eminent apiarians are valuable, just in proportion as they are the result of actual experience and careful observation; and to no greater extent. If those men have shown how, and especially why we should, as Berlepsch says, "constantly endeavor to presevere and breed from the finest, that is, the most brightly colored drones," then we should, at least, test the matter thoroughly before rejecting their theories. But if experience teaches us that "brightly colored drones" are not a test of their purity, then we should not hesitate to reject their theories as readily as if it was the whim of the veriest novice in bee-keeping. My experience is that Italian queens that produce pure worker progeny, and whose daughters are of uniform color, invariably produce drones of a uniform color, but not as a rule of the bright shades—not "brightly colored drones." I can see but very little difference in the shade of the drones produced from over thirty pure Italian queens; while queens which are hybrid, although from pure mating their worker progeny may appear pure, are more likely to produce "brightly colored drones." Those that are not pure, and that have mated with black drones, almost invariably produce finely marked, bright drones.

A friend of mine, who is surrounded by black bees, introduced three or four queens, which I removed in 1874 on account of mating badly, and I never saw a finer lot of drones than he has from the daughters of the queens I gave him; while the drones of the old queens are not unusually bright. Another instance:—In May, 1875, I sent a colony of bees, whose queen had mated badly, to a friend who was surrounded by black bees. It swarmed twice, and as her worker progeny was hybrid, so was her queen progeny. They in turn mated with black drones. The drone progeny of those young queens, produced this year, are very bright—the whole abdomen being of a bright golden hue. Would these be proper drones for bee fathers? Certainly they would if "bright colored drones" are the only ones to breed to, to insure pure Italian bees. If the color is not a test in one instance, can it be relied upon in any case?

Second.—Mr. T. insists that the male bee should be looked to as much as the female. He says: "Let me draw your attention to the fact that cattle and fowl breeders give as much, if not more heed to the male, and they are very successful in their operations." Why select "cattle and fowls" only, unless he intends to term "cattle" to include all domestic animals, which I think he did. But let us take him literally, and see if the parallel exists between cattle breeding and bee breeding. In the first place, in cattle breeding, the male as well as the female has a sire. This is not true of the bee. In the second place, if the breeder wishes beef, he has the museular developments of both male and female to guide him in his selections. In this no parallel exists in the honey bee. If he desires milk, he must, in selecting the males, select only from breeds that are the best milk producers, must be controlled by the qualities of the mother and ancestors; just as in getting good honey-gathering bees. The stock breeder looks to the male for the reason that in it, as a general rule, he can see the qualities which he most desires, while the bee-breeder cannot see a single quality in the drone which he would desire to perpetuate, unless it be the color. The queen should be healthy and prolific, and from the best honey-gathering stocks. The bees should be good honey gatherers, and it is desirable that they be docile, and bright colored, at least uniform in color. The drones should be of stocks possessing the qualities desired and that is all that can be attained. If bees are pure I find no difficulty in their disposition. If they are a cross with the black bee I always find them allied closely in temper to the hornet. The disposition will call attention to impurity where the eye will not detect it, save in the queen progeny.

If so much depends upon the color of the drone, then my friend Thompson should be *very careful* in selecting not to get those which evince any irritability of temper, lest by mating with a queen of a cross breed she might produce bees that would be a terror to the nations. He should select only large, lusty, fat drones (good feeding develops the finer qualities) and make a specialty of taking those (if honey is his object) which have an ability to "gather in" the largest amount of honey in the shortest space of time, and if the color is all right we may look for results.

J. E. RICHIE.

Lima, O., Aug. 16, 1876.

For the American Bee Journal.

Alsike Clover as a Honey Plant.

DEAR EDITOR:—As you desire the experience of your readers with alsike clover as a honey plant, I will say, I have tried it on a stiff clay soil and it has not given satisfaction, and I much prefer white clover; in fact the alsike soon disappears and the white clover takes its place. It may do on wet bottom land. It is certainly a fine honey plant, and by sowing every year would produce a fine crop of honey, but the white clover is as good and holds its own from year to year without re-sowing.

My bees are now gathering honey from honey-dew, and are filling up rapidly. This is the first honey-dew we have had this season. I am glad you are calling the attention of bee-keepers to the importance of cultivating honey-producing plants. To be successful in bee-keeping we must have pasturage for our bees. If all our bee-keepers would plant linn, poplar, tulip, and

sumac, and cultivate the various shrubs and honey plants, there would be less grumbling about bad honey seasons. If we would, I am satisfied we could have a honey harvest from the time fruit blossoms appear until frost. A bee farm with all the various honey-producing trees and shrubs and plants, would, if properly cared for, furnish a succession of flowers from April to Nov. In Southern Kentucky we cannot depend on the natural honey resources.

If we would make bee-keeping pay, and I am well satisfied we can do it, then let every man who can, plant and cultivate the best honey plants he can obtain, and success will crown his efforts; thousands of pounds of honey will then be gathered where bees scarcely make a living now. A friend of mine told me a large linn tree would afford from 10 to 15 gallons of honey; and linn will grow on any soil, if properly cared for. N. P. ALLEN.

Smith's Grove, Ky., Sep. 12, 1876.

[Reports about alsike clover are conflicting. While some report a failure others are loud in its praise. Of the latter class is one who writes to the Maine *Farmer* and calls himself a "Practical Agriculturist." He says that he has given this species of clover a trial. He began ten years ago, and sowed five pounds of seed on half an acre of land in the spring, and he had a good stand of grass in the fall. The next year he produced two loads of hay and 100 pounds of seed. The second year the yield of hay was the same, and 165 pounds of seed. Its superiority over red clover was such that he did all his seeding with it up to the present time.

We should be glad to have others give us their experience with it.—ED.]

From the Michigan Farmer.

The Wintering of Bees.

Jack Frost has already tinted the maples and elms with red and yellow; even our gorgeous fall flowers, golden rod and the asters are fast fading. These sharp mornings with now and then a chilling breeze remind us of the colder times we may soon expect and for which provision must now be made. Among other things we must not forget our little pets—the bees. They have labored unceasingly whenever they could find anything to do, and have given us a generous supply of delicious nectar with which to grace the tea-table and tempt the palate, and in gratitude we should see that they are made as comfortable as possible during the dreary months of winter. Aside from this, it will not pay to neglect them, and it will pay to take good care of them.

The yield of honey from buckwheat this year has been quite good in most portions of the State, and as a little has been added from the late wild flowers the hives must be well supplied for the winter. In sections where firewood is abundant, or certain species of golden-rod are plenty the hives are filled very full almost every fall. The asters which grow in our State are not the kinds which furnish the large yields of honey so often spoken of, so comparatively little can be counted upon from that source. It would pay our apiarists to procure seed of the most common species of wild aster which grows in the middle southern States. We suppose, then, that our hives are fairly supplied with honey this fall, yet, to be sure each hive should be examined, and any that may be deficient, supplied by feeding honey or white sugar syrup, or by giving them combs full of sealed honey. While there are many expensive styles of feeders, simply a shallow pan set in the cap or top story of the hive will answer every purpose. A quart or so of food may be poured in just at dusk, and shavings or cut straw scattered on the surface to keep the bees from drowning. In order to estimate correctly the quantity of honey in a hive it will be necessary to examine each comb separately or to weigh the whole together and then deduct the weight of the hives as well as something for the weight of the bees, combs and pollen. The easiest way I found is to ascertain by weighing the amount of honey which a comb of average thickness will contain, and from that estimate the amount in each hive. Of course an allowance must be made for the weight of the combs, especially if old, and the pollen they may contain. A little practice will enable one to judge quite accurately by simply lifting one comb after another from the hive, how much honey it contains. There ought to be not less than thirty pounds to each stock that is to be wintered on the summer stand; for in-door wintering twenty pounds will suffice. My experience has convinced me that, other things being equal, those stocks that have a superabundance of honey are much more apt to prove the paying stocks during the next year, than those that have to be fed any time after November or even than those that have just enough to carry them through until spring flowers appear. Forty or fifty pounds then would be preferable to thirty. In examining the combs it is well to cut one or two small holes near the center of each to serve as winter passages for the bees; and, if possible, arrange the combs in such a manner as to leave some empty cells or such as contain brood near the centre of the hive. The brood soon hatches, and in cold weather the bees crawl into these empty cells and being densely packed between the combs the whole mass is enabled to keep up the necessary heat of the hive. It is the natural disposition of the bees to store their honey in this shape, that is, over and around the brood nest; but during a good yield of honey late in the season they fill and seal all the combs to the bottom. When this occurs the bees, being separated by the cold sheets of honey are liable to perish before empty cells are obtained. The remedy is to use the extractor on the central combs, removing only a portion of the honey from each. We suppose then that one of the conditions upon which successful wintering depends is present, namely; an abundance of honey.

The second point to be mentioned is that the hive should be well stocked with bees. Carefully lift the cover or turn the hive up some cool morning and if the cluster occupies five or six spaces call the stock fair. Yet "the more the merrier," and safer, too.

Our third point is, every hive should have a good queen, one that has shown no signs of failing and is not past her third season.

Special repositories with thick walls like those of an ice-house are often constructed for wintering purposes. Dry cellars are

also devoted to the same purpose. These rooms should be dark, and, if possible, kept at a temperature of about 42 deg. F. The hives should be set in as soon as cool weather makes its appearance; and before the combs become frosty, the top of the hive may be removed and a blanket or straw mat laid on the frames.

If the stocks are populous, and have good queens and plenty of honey, and the hives can be properly packed I would rather have them remain on their summer stands. Make a box just the width and length of the hive and three inches deep and set the hive over it. This will give an air space below the combs and preclude the possibility of the freezing up of the entrance. If the hives are large so much the better. Place the eight or ten combs containing the winter's food near the center, and hang on each side a division board, made by nailing together pieces of lath with an even layer of straw between them; place above a cap or top story several inches deep, lay a quilt or straw mat across the tops of the frames, and pack chaff or cut straw over and around them very closely. The cover should not shut very tightly but should admit no water. If snow-drifts cover the hives, they will be much better off.

To sum up, then, the conditions for successful out-door wintering seem to be the following: Strong stocks, plenty of honey, good queens, large hives well packed above and at the sides with dry absorbing material, an air space of two or three inches below the combs, and a chance for the moisture caused by the heat of the bees to pass off very gradually without permitting any draft of air through the hive.

I have had stocks prepared in this manner that reared brood all winter and were in splendid condition for the next season's work. There will be no trouble about "springing" such stocks. When thus prepared I have never lost any colonies in wintering, but I have lost them when they were placed in a cellar or buried in pits, or when they were neglected on their summer stands.

Knoxville, Tenn. FRANK BENTON.

For the American Bee Journal.

Chips from Sweet Home.

We started with 103 hives, increased to 175, got 1,920 lbs. box honey and 940 lbs. slung honey, and about 30 lbs. beeswax. In taking off our boxes we had 122 section boxes that were more or less filled, of the sections partly filled and not salable for comb honey, my wife slung out 200 lbs. Of the sections that were filled and capped nicely I filled 38 boxes, weighing 613 lbs., the empty combs are saved for next year's filling. I have 70 6-lb. boxes partly filled containing about 200 lbs., of which I cannot well make any use; this alone makes considerable difference in favor of the sections. This season was very favorable for swarming, and the forepart was favorable for honey, but the month—from Aug. 15 to Sep. 15—that we count on for honey was very wet, raining nearly every day, so our crop is quite short.

Here is an idea and plan to prevent swarming, or at least to do the next best, for which I am indebted to J. L. Wolfenden of Adams, Wis. I give it as he wrote to *Gleanings* and also on a postal card to me, as I wrote him to tell us "all about it." I have had better success with box honey this season. The way I fool them is this: When they swarm put them in an empty hive just beside their old one. When nicely at work, say in one or two days, give them their old combs and boxes and everything goes on as though nothing had happened. I keep queen's wings clipped when swarm issues, watch her, turn old hive half way round and cover entrance, put new hive with one frame of brood close by old one with queen in front, when bees return release her, when all in, turn old hive to its former position; let them remain that way a day or two, then give them their old combs minus queen cells. I tried it on 6 or 8, and no failures, they worked in boxes as though nothing had happened.

If we can prevent increase, then we will have attained the four things for profit, viz: movable frames, Italian bees, honey slinger and no increase. D. D. PALMER.

Eliza, Mercer Co., Ill., Oct. 9, 1876.

[The above was *all* written on a postal card. Friend Palmer thinks printers have good eyes and magniflying ones, at that.—ED.]

For the American Bee Journal.

Sundry Observations.

THE BEE MOTH.

We never considered the moth-miller an enemy to bees. Whoever knew a hive of bees destroyed by these pests, unless the hive was first greatly reduced in bees? It is only after a hive has become queenless that the bee moth gets control and destroys the combs. The moth worm does not like the taste of honey, and that part of the combs containing honey are the last to be eaten by them. Novices, as a general thing, get the idea into their heads, that the moth is in their hives, and they fear that they will soon lose them. All hives have more or less moth worms about them, but no strong stock of bees was ever injured by them.

Hives with "patent moth traps" attached to them are only got up to swindle the novice who does not understand the habits of the moth. All such clap-trap fixings are a perfect humbug. Of course if the miller can be destroyed they won't do any damage to even a queenless colony. Moth traps won't do much towards destroying them. At this age of movable comb hives no stock of bees need be destroyed by worms, and only a careless bee-keeper will permit such a thing to occur on his premises.

Last winter we read an article in a certain bee journal and the writer acknowledged that he had lost a hive by worms, and this writer has taken it to himself to teach other bee-keepers the art of bee-keeping, and I notice that there are several bee-keepers who have had not over five years' experience, undertake the job to teach the same art. We old ducks must take a back seat and look on. Appearances about the entrance of the hive indicates what is going on in the hive. Most observing bee-keepers have no trouble in determining whether a hive is queenless or infected by worms without examining the combs. If a hive is known to have been queenless for a month

or longer, look out for worms if the weather is warm, in a short time, unless it is soon taken care of. Combs that are not wanted for immediate use should be fumigated with brimstone. It not only preserves the combs from the ravages of the moth and other insects, but it keeps them in their natural state from becoming mouldy, dry, and worthless. We usually fumigate them in this way: Take a large dry-goods box and pack the combs around the sides, leaving room in the centre large enough to admit a good-sized stone. We heat the stone quite hot and place it in the box, then put roll brimstone on it and cover the whole thing up as tight as possible to keep the fumes of the burning brimstone in, and my word for it, no insect will ever touch those combs, and if there are any about it, it is sure death to them or to any eggs in them. Combs that have been laid up thusly one season are not worth much and we never use them. We prefer to have our bees make new combs, as bees work better in them.

WORKER BEES IN DRONE COMB.

If Mr. R. R. Murphy will look over the back numbers of the JOURNAL, say 9 or 10 years ago, he will find a case reported by me of "worker bees in drone comb." We gave a stock of bees a large proportion of drone comb and fed them liberally, hoping thereby to compel the queens to lay some drone eggs. We examined the hive and found plenty of eggs in the drone combs, but when they hatched out they were all worker bees. We have no trouble now in getting all the drones we need.

SWARMING.

Mr. Wm. Kellogg has his doubts about a hive casting a swarm without first starting queen cells. During our experience we have known of a large number of such cases. We had one this last season come off and no cells were started, but the heat of August drove them out. This stock had a very prolific Italian queen, the largest one I ever saw. After I had hived the swarm, I examined the old hive and found no cells. In the course of a few days I removed a lot of cells and gave them a queen. This I could not do safely until they had made some cells. H. ALLEY.

Wenham, Mass.

For the American Bee Journal.

Keeping Honey.

I put up six one-pound cans of beautiful linden honey, being careful to make it one homogeneous mass by stiring. It was taken from the combs by an extractor on July 20, and put into cans on August 1. The cans were placed respectively as follows: One in a dark dry cellar, one each under shades of red, yellow, green, and blue glass, and the sixth can in full light. On Nov. 8 the honey in the cellar candied to a white. Nov. 22 to Dec. 10, honey under colored shades candied, first in the red, next in the yellow, green and blue; while the honey in full light remained transparent until January, when it soon candied after exposure to intensely cold weather. From my experience, an equal temperature would preserve certain kinds of honey, while other kinds would candy under almost any circumstance. I think that candied honey, instead of being looked upon with disfavor, should be recognized as evidently pure. I hope, however, that the above experiments will lead others to follow up the light theory with beneficial results.

A WISCONSIN BEE-KEEPER.

For the American Bee Journal.

How Queens are Sometimes Lost.

Many colonies become queenless, with new beginners, during the spring and fore part of summer; and when the bee-keeper finds the queen is dead or missing and the workers are constructing queen cells, he concludes at once they are superseding their queens. If he knows the queen is young (being reared only the last season) he can give no reason for their supersedure, but if it is one that he bought, he is apt to wrongfully blame the queen-breeder for sending him an old queen instead of a young one, as he agreed to.

In 1865, Mrs. Tupper said: "bees often destroy a queen for no apparent reason.' There is no doubt that there are some cases of bees superseding their queens; but they are few, compared to the number that become queenless. When I had but a few colonies of bees I was anxious for them to increase in number, and I would overhaul them often, and assist them in every possible way. I have often opened a hive and found all right, the queen laying splendidly and the colony increasing rapidly in numbers, but when I opened it again two or three days after, I found the queen dead and half a dozen to a dozen or more queen cells being constructed. This was apt to be the case with my breeding hive, as I usually looked at that the oftenest. In 1875 I found the cause of such destruction of queens.

It is (with laying queens) simply by overhauling the colony in cold unfavorable weather and during cold nights. Perhaps overhauling them during a drouth of honey might produce the same effect. Last year (1875) I found my breeding queen dead about the middle of May, and thought, of course, it must be that they were superseding their queen. As I had read about bees superseding old queens, I thought the queen breeder had got out of having one old queen die on his hands, though I bought her for untested in 1874. I then reared seven of her queens, but two of which ever became impregnated, being too early in the season. On the 13th and 14th of June, we had very cold mornings, but pleasant days. At noon on the 14th I opened a hive that I knew the queen would be one year old the 10th of August, and while holding the comb with the queen on it, and admiring everything that was going on, the queen passed through a small hole in the comb, and as she started through I saw a worker seize hold of her. I then turned the comb round to see what the consequence would be, and found every worker near her was pitching into her and had her imprisoned in a moment. I then rescued her and caged her the same as introducing a strange queen. I then thought it must be the same influence the cold nights had on them, and to make a farther test of it, I went to a hive containing a fertile queen less than a month old. I looked the combs once over and failed to see the queen; I then handled the combs over the second

time, and found her imprisoned in a knot of workers. I then rescued her and caged her and returned her to her own hive, and in two or three days I released them both the same as introducing a strange queen, and both were received all right. This proved to me beyond a doubt, that the cold weather had the influence on them to take revenge on something, but why they want to take the life of their queen is more than I can understand, when they seem to realize that their very existence depends on their queen, and will put forth every effort to rear others as soon as one is lost!

Some apiarists seem to think that bees destroy their queens by being in a different part of the hive a considerable length of time, getting a different scent from the other part of the colony. and when they pass over the workers will destroy them: but it is readily seen that this is a mistake, for they will destroy their queens when overhauled in disagreeable weather, when we know by the brood nest that they have been in all parts of the hives every day, for weeks.

As for virgin queens the case is different. I never yet have had a virgin queen commence laying, though I have never tried the the experiment in the fall. I have had them hatch in the spring in advance of the drones —or rather before drones were of any use— and nearly every one that was not impregnated in a reasonable length of time, was destroyed without disturbance.

Palo, Mich. S. K. MARSH.

For the American Bee Journal.

Is Bee-Keeping Unreliable?

Yes; but not more so than farm products generally. The wheat crop, for instance, is no more reliable, and when it is a good crop the prices are liable to run down so low that a fair estimate of the use of land, manure, labor, seed, interest, taxes, etc., will equal or exceed the market value of the entire crop through the State. So it is with the corn crop, while an average honey crop intelligently managed will sell at a fair price, and although the original stock has not dimished in value, the receipts will pay full 100 per cent. on all investments.

We are often reminded of the obstacles in the way of prosperity in bee-keeping, such as millers, moths, robbing, going to the woods, etc. These are all imaginary, and if properly managed need not be feared. Really the greatest obstacle in the way of progress is *ignorance*, followed (as the swordfish and shark swiftly follow the wounded whale) by *swindling impostors* who live and feed on ignorance and who have bled and nearly devoured our bee-keeping interests. Just in proportion as bee-keepers, or any other class, are *informed*, they cease to be easy game for sharpers and knaves, whether they be venders of complicated non-swarming bee hives, with moth traps, or whether they vend morus multicaulis, Chinese yams, wine plant, branching corn, with the ears nicely *glued* in, or choice varieties of apple trees, grafted on miserable crab roots, sold at double the usual price, to double the sales and quadruple the profits. The rule holds good, apply it where you will.

Bee-keeping is now reduced to a science and though in its infancy has its main principles ascertained and fixed. Only those who learn the science and become familiar with its application will be likely to succeed. As in all other avocations, especially rural pursuits, the unskillful and unscientific will fail to realize their expectations.

Franklin Co., Vt. O. C. WAIT.

Surplus Honey and Care of Bees.

EXTRACT FROM AN ESSAY READ BY MR. J. A. CRANE BEFORE THE BOARD OF AGRICULTURE OF VERMONT.

As fast as boxes are filled and capped they should be removed, and replaced by new or empty ones if the harvest will warrant it, and as soon as the harvest fails, all should be removed, as the combs become soiled by the bees, if they remain very long in the hive after being filled. And just here I want to say a few words about boxes. For market, they should be with glass sides and ends, with top and bottom of wood, and of a size that when filled will weigh about 4 pounds. I make mine 6¼ inches long by 4¼ in. wide, and 5½ in. high outside. Two nice, white pieces of comb should be attached to the top before the box is nailed together, to induce the bees to commence, and guide them in building straight combs lengthwise of the box; such combs being the most suitable size for the table. When ready to ship to market these boxes should be made tidy in appearance by removing all propolis, and if the glass side of a box is badly soiled it should be removed and replaced by a cleaner one. Cases should be made with open sides, that the quality of the honey may be seen at a glance, and large enough to hold 12 boxes. In these carefully pack the boxes, three in width and four in length, and on one end mark the net weight, with the owner's initial letters. October and November are the best months to ship to market.

After the honey harvest is past and all the boxes removed, the bee-keeper should again go over his hives to see that all have abundance of honey for winter. If any hive is found that is lacking in food it should at once be supplied, or else the stock must be broken up later in the season and united with some other colony. If there is a deficiency of bees in any hive, they must be supplied with brood from hives that can spare it, or else they must be stimulated by feeding to rear young bees, or two or more such united. Also at this inspection the age of every queen should be noticed. If any queen is found that is three years or nearly, it should be destroyed and replaced by a young queen. A queen three years of age may winter well, but is apt to fail early the next spring, which is very injurious to the prosperity of the colony. I prefer after the harvest to destroy all old queens over two years of age, and give the colony a young one instead. If a hive contains a young, fertile queen, an abundance of young bees hatched out the last of the summer, and plenty of honey, it possesses the most essential requisites for successful wintering. Comb two or three years old is preferable to new comb, as it is warmer.

☞Please look over "Our Clubbing List" before subscribing for *any paper*. It will pay you to avail yourself of the advantages there offered.

For the American Bee Journal.

My Report for the Season.

MR. EDITOR:—Now that the honey harvest is ended for another year, it seems eminently proper that we state what has been the conditions with each other and what the results.

My 25 stocks came out of winter quarters strong—never have lost any in wintering or springing. I have always prepared my hives for winter by stuffing dry leaves or fine cut straw around the sides and on the tops of the frames, having first placed a woolen cloth on the top, and contracting boards at the sides; placed them in the cellar some warm day, about the 20th of Nov., and taken them out somewhere from the 10th to the 20th of March. This year I have made rye straw mats—straw unthrashed, nice, straight and unbroken—have not only put them on top of the frames, but also at the ends or sides, using them instead of contracting boards and shutting them in nice and warm. Shall use cut straw and leaves as before.

My hives when placed in the cellar are heavy with honey, and I cannot conceive a state of things, either as regards man, beast or insect, wherein they may have too much of a good thing, the surroundings being all right. I do not wish to discuss this matter now, and would simply say that when I use the extractor with box honey, it is the last of spring or first of summer, never in the fall.

The season here for honey has been short, but tolerably good while it lasted, closing with the white clover, excepting, perhaps, 10 to 15 days of blue vervain. The latter not yielding honey as last year, though there was abundance of it growing here. It has been warm and wet, a bad year for the swarming fever, yet I have only increased my stocks to 28—three increases. Yet they bothered me exceedingly and gave me such an experience as I never had before. What that experience was, it would be a waste of time to tell. Almost every one who has had bees, thinks he has some singular experiences; and in all candor, let me say, I think it very likely; tell the biggest yarn on swarming, and if I don't endorse it, I can tell one that I would not have believed one year ago, and the best, or worst, of it is, it would be true. I know what the trouble was now, and I thought what the trouble was then, and the only difference between now and then is: I've thought what the trouble is now and know what the trouble was then—I hadn't a non-swarming hive.

In closing, let me say that the results of the year has been 2,500 lbs. of nice box honey. R. H. MELLEN.

Amboy, Ills., Oct. 15, 1876.

For the American Bee Journal.

Black Bees—Wintering.

I have had black bees, Italians and hybrids, and at this time only have the common native black bee. Some may wish to know my reasons for discarding the Italians and hybrids, and I will give them. First, the native black bee will stand cold weather better, work better in boxes, start brood earlier in the Spring or later part of Winter and are just as easy to handle without getting stung, and protect themselves against moth with proper attention, as well as any imported stock and they have always given me more box honey than the Italians or hybrids.

I always bury my bees on three sides with straw and dirt and give an open front for flight in the Fall, Winter, or Spring. I set my hives on wide boards, two inches from the ground, in a row with an east front; about six inches apart; fill in between the hives with hay or straw and place on the west side, hay one foot thick, and then cover with wide boards to keep dry, and my bees come out all right in the Spring. I also have a wide loose board set up in front of the hive for a wind-break, and whenever it snows I brush away the snow with a broom. I also use woolen cloths on the top of frames and pack the cap or top of hive full of dry hay in order to give upward ventilation and to absorb all moisture accruing from the breath of the bees. W. N. W.

Wayne Co., Iowa.

For the American Bee Journal.

How to Successfully Winter Bees.

That is a problem quite difficult to solve, and one, too, that has puzzled the best apiarists of this country for years. Opinions and theories as to the causes, and the means of prevention, were plenty enough and seemingly plausible, but when put into practice they would not invariably work as expected. Bees would die when surrounded by the most favorable conditions, apparently, and bees would prosper and come out all right in the spring under what appeared to be extremely unfavorable conditions. The question is not settled yet, but a majority of bee-keepers, after trying all methods, have decided that cellar wintering is the best.

But all does not depend upon the place of wintering. Much depends upon the condition of colonies at the commencement of winter. They must be populous—full of young bees—which condition can always be secured by commencing in time. They must have honey enough to winter on—not less than twenty pounds to the hive. The honey must be pure and sweet. If it has soured in the cells, as it frequently does, substitute sweet honey, or white sugar syrup. There must be empty space in the central combs for the bees to cluster in. This can be secured by removing a frame and putting the rest farther apart. Winter passages through the combs are a great convenience for the bees, as it saves them from traveling up over the frames.

Before putting into winter quarters, lay small sticks on the top of the frames, and on these lay a piece of carpet or quilt. This will make a passage for the bees over the frames, under the quilt. The quilt will preserve the heat, but allow the moisture to pass off. Having all these conditions filled, wait for a fine day in November, when the bees fly freely, and then put them in the cellar. Put them where they are to stay, contract the entrances, keep the cellar perfectly dark, and on no account disturb the bees till spring. If the cellar is dry, dark, quiet, and properly ventilated, you have done all you can, and must wait for the result in the spring. J. H. W. PRYNER.

Butler Co., O.

From the Country Gentleman.

Feeding Bees.

The feeding of bees is a matter in which the inventive genius of man may profitably be exercised in discovering a method that shall be perfectly satisfactory under all circumstances. It is the general custom to feed them in the hive, by placing the food in the supers in a manner that will attract the bees to it. For instance, a colony of bees is found in October to be short of honey, a fact that every skillful bee-keeper may ascertain by lifting the hive, or even by raising one side of it; or if he has movable comb hives, he may examine the combs. These bees may be fed on honey in the comb, strained honey, or on a syrup made of white sugar, four pounds to a quart of water, heated to the boiling point and skimmed.

If honey in the comb be used, first lay down small sticks, about half an inch thick, directly upon the frames, or when common hives are used with supers, upon sticks laid between the holes through which the bees pass up into boxes in the supers, but now removed. You lay down a piece of comb, scatter a little honey near the holes, rap on the hive, and the bees come to the holes immediately to see what is wanted, and finding the honey, they will, if very short of honey, soon carry it all down into the lower section of the hive. But in some cases they will cluster on the comb, cement it to the hive, and leave it where it is, not knowing that it will be impossible to come up and get the honey in cold weather. It is best, therefore to uncap the cells with a sharp knife, and then the bees will carry all the honey down.

Feeding in some climates should never be delayed beyond September, but in warmer latitudes it may be done in October, and in some localities it may be done all winter. The novice in bee-keeping may ask, "Why not feed the bees outside, in front of their hives?" This would be feeding the entire apiary—those colonies that already have enough, or too much, as well as those that need feeding—and when the honey had all disappeared, the strong colonies would in many cases commence robbing the weak ones, being highly excited over the spoils.

I have spoken of comb honey to feed to bees; but strained honey and sugar syrup are better, sugar being found about as good as honey. There are different methods of feeding these. Some "patent" feeders have been introduced based on putting the honey or syrup into a vessel with cotton cloth at the bottom, through which the bees take the honey; but it is useless to buy such a feeder, as anybody can make one if wanted. Let a tinman make a cylinder about the size of a quart measure with both ends open, then attach three legs, to be soldered on about an inch from the bottom, which space will allow the muslin to be tied over it. The legs should come down about an inch below the lower edge of the feeder; and when the cloth is tied on, and the feeder filled with honey, the cloth will, or should, sag down in the center, so that the bees can reach it; and they will soon cover the cloth, and in one night they will empty the feeder, if the cloth is not too thick. If the feed is too thin it will run through the cloth too fast, and if too thick not fast enough. The tinman should make a cover to the feeder, or the bees will enter it at the top, and get stuck fast in the honey. If strained honey be fed it should be slightly thinned, by adding a little water, and heating it to the boiling point.

Another way to feed bees in the caps of their hives, is to put the liquid feed into a tin cup with perpendicular sides, and quite shallow, say from three to four inches deep, and to hold a quart. Fill this cup nearly full, and then cover the honey with floats made as follows: Take rods three-eights of an inch square, saw them off with a fine-tooth saw in pieces a half an inch long, then with a sharp penknife cut off the edges to the center of each piece, and you have the best float ever invented, and originating with the writer. You take a handful of these floats (made of dry white pine) and spread as many upon the surface of the feed as you can, without putting one upon another; you then place the cup in the hive, and tole the bees up to the feed by letting a few drops of honey run down on the outside of the feeder in several places; or a piece of honey comb filled with the feed may be placed against the feeder, and reaching to the top of it. As soon as the bees have found the feed, in one night they will empty a quart feeder, taking every particle of it, and not a single bee will be killed by getting into the honey. It was a mere accident that I learned the value of these floats, the principal point being in cutting them down to octagons.

When an entire apiary requires feeding, which may happen in a bad season for gathering honey, the bees may be fed outside in several large feeders; but great care must be taken that the strong colonies do not rob the weak ones, as soon as the honey in the feeders is gone. Sugar syrup does not cause robberies as much as honey; but honey may be fed outside to fifty or more colonies, and no robberies take place, if you contract the entrances to the hives of your weak colonies, as soon as the bees have carried in the last of the feed, so that but one or two bees can pass in and out at the same time. If the robbing has commenced, all you can do is to contract the entrance immediately; or you may close them entirely, giving ventilation by raising the hive a little, and slipping in thin wedges at the corners. Keep the hive closed an hour, then open it, and rap on it to cause the robbers imprisoned to go out, then close again till after sundown, then open it long enough to let out any remaining robbers, and to let in the outside bees that belong to the hive, then close again, and so leave the hive till all robbers cease to try to enter, which will be in 48 hours, then open again with the passage-way contracted, and your bees will be safe, if the hive contains enough to be of any value.

An important consideration in out-door feeding is, whose bees you are feeding. You may be feeding your neighbors' bees, as well as your own; consequently you should feed on a warm sunny day, give your bees a copious supply, and not repeat the feeding for some days. By so doing, the operation will be over perhaps before your neighbors' bees have scented the honey.

But all this kind of feeding can be dispensed with, if you have movable frame hives, a few to be fed, and as many colonies that have more honey than they need. You merely exchange the empty combs in hives

short of honey for full ones taken from colonies that can spare them. This can be more safely done in the spring than in the fall. A populous colony ought to have in October at least 25 lbs. of honey, in order to be sure of a winter supply. Sugar will winter bees as well as honey; but either ought to be fed early enough to allow the bees time to seal over the cells before cold weather comes. In feeding in the caps of the hives, it is best to feed about sundown, so that the bees of your other hives will not be attracted. If you begin early, a pound a day is enough to give them. Always feed in mild weather, when the bees will not be chilled by remaining in the supers all night. In using new tin feeders, I recommend rubbing some melted beeswax upon their outsides, as the bees often find it difficult to walk upon the slippery tin. A very little wax suffices.

What bee-keepers now need is a feeder that can be placed directly in front of the entrance of a hive; admit the bees freely to it at any season of the year when they fly out; not obstruct their passage in and out at all, and not attract the bees of other hives in the apiary to the feed. Such a feeder would save a great deal of labor, in opening hives, lifting off their roofs, etc., besides enabling one to feed his bees in the winter season, in mild weather, if standing out, which could not be done in the supers, as they would (or should) be covered by some winter protection. T. B. MINER.

Maury Co. (Tenn.) B. K. Society.

The above society held their regular annual meeting on Saturday, Oct. 7, at the Recorder's office, Columbia, Tenn.

Present: W. S. Rainey, President; C. C. Vaughan, Vice-President; Wm. J. Andrews, Secretary and Treasurer. S. D. McLean, Travis McLean, T. J. Perry, J. C. Moore, E. C. Overton, D. Staples, J. M. Byers, R. H. Caskey, J. J. Jones, A. Bowen, and others.

The minutes of the last meeting were read and adopted.

The President stated that before proceeding to the regular business he would be pleased to have an expression of the views of the members on the propriety of feeding sorghum molasses.

S. D. McLean—Had no experience in feeding sorghum, but was of the opinion that they would not take it very readily.

W. J. Andrews—Had fed some to his bees, but did not regard that which he had been feeding as a good article. It was very dark, and he thought slightly scorched in making. Some of his colonies partook of it very freely while others would not take it at all. He had mixed some with honey, and when so mixed they partook of it very freely. What the result would be from it he could not say.

C. C. Vaughan—Had also fed it mixed with honey, and they took it freely.

W. S. Rainey—Had fed it, and noticed that at times they partook of it freely, and that at other times they would not touch it.

R. H. Caskey—Thought that when they partook of it they were unable to gather honey; but when able to find honey in the fields that they would not touch it. He had fed honey, and at times they would not touch it, and he attributed it to that cause.

D. Staples—They will take it, and they will not starve as long as they can get it. He thought that the reason they took it at one time and refused it at others, was owing to the weather; that when the weather was cool it became too thick. That if fed to them warm they would partake of it freely. He thought equal parts of honey and sorghum made a good feed. Did not think it advisable to feed much of it when they were confined to the hive for a long time; but in our latitude, where they are able to have a fly every few days, did not think there would be any bad results from feeding it.

W. J. Andrews—If exciting to a robbing mood they would take it hurriedly.

C. C. Vaughan—Thought they might be induced to take it by feeding on honey for a while; but would not advise the feeding of sorghum.

R. H. Caskey—Had fed a colony on sorghum last spring, but did not think it did them any good.

J. M. Byers—Had a swarm to come out that was entirely destitute of supplies. He fed them sorghum from a bottle; they were slow to take it at first, but did so. He fed them nothing else. It stimulated them, and they soon commenced gathering honey. He was told that the queen was the easiest killed by food that would not agree with them. In this case the queen was not killed from eating it, and she had nothing else to subsist on.

J. J. Jones—Thought to make a thorough test of the matter, they should be fed on it when it was impossible for them to get anything else.

W. J. Andrews—Moved that the next experiment be "Feeding Sorghum," adopted; and the President appointed A. Bowen, J. J. Jones and C. C. Vaughan as the committee to make the experiment.

W. J. Andrews—Had the question recently put to him as to the quality of honey gathered from pea blooms, and would like to know if any of the members could give any information concerning it. None knew anything of it.

Mr. J. J. Jones then read the following essay: *Mr. President and Fellow Bee-Keepers:*—At the June meeting of this society, it conferred on me the duty of addressing you on the subject of honey.

HONEY PLANTS.

We have a vast number of plants in our locality that yields honey—some more and some less—the poplar and the linden being the source from which we get our greatest yields of honey.

GATHERING HONEY.

Bees gather, but do not make honey, as many suppose; hence the great variety of honey—each variety unerringly telling the expert from what plant it was gathered.

HONEY.

Webster says that honey is composed of mucilage, sugar and acid—mucilage the adhesive part, sugar the sweet part, and acid the sour part of honey. Some honey have more and some less acid in it. For instance, I think our linden honey has more acid in it than any other kind of honey we can get; and owing to this fact the uneducated are sometimes led into error.

For instance, a sick man sent to me one time for some honey, and I sent him what I thought to be as fine linden honey as I

ever saw. An intelligent young man, whose opinion should justly be represented, was visiting this sick man and tasted some of this honey, and said that it was sour honey; that it was extracted too soon. Now if he had known that this acid taste was peculiar to the linden honey, I know that he never would have said that it had soured.

EXTRACTING HONEY

It has been my practice for years to extract honey just after the bees have commenced capping. After this time there is but little uncapping to do, and it makes less work for the bees in repairing the combs. I use a large barrel with one head out and well waxed inside; into which I put my honey as I extract, and until it is full; after which I let it stand a few hours, and then draw the honey off into another barrel, always leaving a few gallons in the former barrel. This will save skimming, and will give you nice pure honey in your barrels.

SELLING HONEY.

This is the most important point in bee-keeping. We know that ours is a good locality for bees, and we know that they will gather large quantities of honey, but how to turn our honey into cash at a fair price is a question for our consideration.

We may dispose of a few hundred pounds of honey at home in the way of barter, but get very little cash.

From the little experience I have in shipping honey, I cannot make a very favorable report. Although we have been selling our honey at 25 cents per pound, the expenses have been so great that I do not think that we have realized more than ten cents per pound for our honey. But I think if our bee-keepers society could agree and get up some kind of a co-operative arrangement to sell our honey, we would do much better than this.

PREJUDICE.

There is much prejudice by the uninformed against extracted honey. Some saying that it is not as good as comb honey; and others say that we bee-keepers extract our honey to soon, or before it gets thick enough, and the consequence is that it sours, and some go so far as to say that extracted honey will sour any way. And when we go into the city to sell honey we find that there are but few who will buy extracted honey—that is in the granulated state; they say and believe that it is artificial honey.

Now while these notions of clever people may be amusing to intelligent bee-keepers—still these notions are an injury to us, and we have to meet them the best we can.

HONEY AS FOOD.

Almost everybody is fond of honey, and the number who are not is very small. Honey has been used as food by man from the earliest ages of the world down to the present time. And some of the wisest men that the world has ever produced have said that honey was good.

Samson on his way to get married took honey from a colony of bees in a frame hive of his on the way and ate and gave it to his partner and mother, and they did eat.

One of the Prophets said of Christ, "Butter and Honey shall he eat, that he may know how to refuse the evil and choose the good."

The last food Christ ate on earth, and that was just after his resurrection and before his ascension was honey.

On motion the appointment of Mr. M. G. Grigsby to read an essay at this meeting was continued until the next.

S. D. McLean—as one of the committee to experiment on "what age the larva passes the stage of being reared into a queen" submitted the following report:

I deprived a colony of bees of their queen on the 25th of September, and on the 7th I destroyed all cells. I again destroyed all cells on the 9th; on the 11th I destroyed three more, after which time there was no more constructed.

W. J. Andrews—of the same committee reported that he made a colony queenless July 5th; on the 8th he cut out three cells; on the 9th one cell; on the 10th one cell; on the 12th two cells; on the 13th one cell; on the 14th four cells; on the 15th and 16th he found no more cells, and inserted more brood on the 16th.

S. D. McLean—thought that the experiment was conducted at the wrong season of the year, that it ought to have been in the Spring.

J. J. Jones—Had had queens of the same sitting to hatch some as early as the 11th, and others as late as the 16th day.

D. Staples—Had had them to hatch from 9 to 19 days.

C. C. Vaughan—Had them to hatch this season on the 10th day from the egg.

S. D. McLean—Thought that bees worked from instinct altogether, and never do anything wrong.

The President—If that be true, then why do they eat sorghum, which you think will probably do them injury?

S. D. McLean—I am not sure that it does injure them, as I stated at the outset, I have no experience in that way.

After considerable discussion, it was agreed that it would be about ten days before eggs and larva would pass the stage of being converted into a queen.

The Secretary then submitted his annual report, showing the receipts and disbursements, which was received, accepted and ordered to be spread on the minutes.

The Society then proceeded to the election of officers for the ensuing year.

J. J. Jones moved that all the officers be re-elected by acclamation. Adopted.

S. D. McLean moved that C. C. Vaughan, D. Staples, R. H. Caskey be elected as Executive Committee by acclamation. Adopted.

On motion the Secretary was instructed to secure a permanent place of meeting.

It was moved by S. D. McLean and adopted that the President be requested to deliver an address in January.

S. D. McLean moved that the Secretary address a communication to prominent bee-keepers requesting them to write essays to be read at our meetings. Adopted.

It was moved and adopted that the Secretary prepare a suitable blank for annual reports to be made in April of each year, and furnish the same to the members to be filled up. Adopted.

S. D. McLean moved that in view of the fact that our Secretary contemplated visiting the Centennial—he be requested to attend the meeting of the National Bee-keepers' Association to be held in Philadelphia, and that the President give him a letter to said society, requesting them to extend to him such courtesies as they can consistently, &c. Adopted.

WM. J. ANDREWS, *Secy. and Treas.*

For the American Bee Journal.

A Sorghum Mill Death to Bees.

On the first of September (last month) I had 165 strong stocks of native bees, full to overflowing, and from one quart to a hat-full lying around the entrances of each hive. They were populous colonies with full stores.

A neighbor, within a quarter of a mile, put a sorghum mill in operation. The third day a person told me that the mill would soon use up my bees. I took no notice of it, as I thought if it did kill 8,000 or 10,000 it would not matter, as I had plenty, and to spare. On succeeding days the news came to the same effect. At the end of the first week since the mill was started, I noticed that my bees were all gone inside the hives or elsewhere. I examined them and found 48 stocks had only about a pint of bees left, and the remaining 52 contained about a quart each.

On going down to the mill, I discovered that the destruction had been immense during the previous week. Two barrels, holding 61 gallons of juice each, were covered with coarse sack or gunny bag cloth, for straining the juice. On one side was a hole as large as an egg, where my bees had entered almost *en masse*, and about two good swarms were drowned in these barrels every three or four hours. On one side of the boiler is a tub to receive the boiling scum or foam; this attracted the bees, about as much as the barrels, and thousands perished by scalding every hour.

The workmen had to be protected, as they had been stung by the bees, and their hands, arms and feet were much swollen. I suppose there is no help for it—as this is a free country.

If I had only a few stocks I could move them, but it is quite a task to move so many, and it is hard to see them murdered in this way.

In Quimby's Mysteries of Bee-Keeping, he says: "For a man to see 100 stocks of bees starving at one time is rather discouraging to a sensitive mind. It will be well for him to lay up a stock of fortitude in prosperous times, large enough to last him through such seasons of discouragement." This suits my case; though mine were not starved but murdered, it needs just as much fortitude to last through this season of discouragement.

I have used my honey market-boxes for feed boxes. I had a number of them made of tin. I cover the bottoms about one inch deep with syrup and put in small laths as floats.

I have tried a new way of feeding my bees. I made a scaffold, laid tight, 8 feet wide and 20 feet long, under cover. On this I spread out every morning about 2 inches thick of fresh ground apples and sprinkle with a garden sprinkler a solution made from 4 lbs. of sugar to 2 gallons of warm water, each morning and noon. My bees seem to like this kind of food.

My bees have always made me a good living as well as enough for themselves. My hives are crowded now with full stores, but my object in feeding is to stimulate them to keep breeding to replace those destroyed at the sorghum mill. Will it do to feed through Nov. and Dec. for that purpose?

At the time of writing this, it appears to me that my bees are improving in numbers, and the hives were well filled with brood when the old bees went to the sorghum mill.

J. E. GADSEY.

Williamson Co., Tenn.

Do Bees Make Honey?

Prof. Riley, who asserts that bees do not simply gather but actually make honey, is met with the following from a correspondent of the *Scientific American*. He says:

Is it not astonishing to find that professors of this day state that bees make honey? A good common stand of bees, having but short distance to travel, will increase their stock of honey from one to two pounds in twelve hours' fair work. What chance is there here for a digestive process? Place three pounds of loaf sugar syrup within easy reach of such a stand at 8 P. M.; it will all be taken up and stored away before sunrise next morning. I once thus experimented: After feeding to about forty hives, nine barrels of Cuba honey, upon examination I found no difference between that in the comb cells and that in the barrels, only the former was clearer from dirt. The honey becoming exhausted, I then fed the bees during the rest of the fall with loaf sugar syrup. Upon examination next spring, I found the comb cells filled solidly with well-grained loaf sugar, precisely like that I had dissolved to feed the bees with. Other comb cells were partly filled with Cuba honey and partly with ground loaf sugar.

For the American Bee Journal.

Keeping Bees over the Winter.

Again winter is upon us, and bee-keepers look forward with anxiety to its results in reference to his pets.

Having very good success in wintering bees of late, I thought I would append a few notes in the way of giving my method of preparing for winter.

First, I raise the hive from the bottom board by placing a frame three inches in depth, and the size of the hive, between the hive and bottom board, which gives a space for filth, dead bees, &c., to remain without coming in contract with the combs. I am now making hives with a tight bottom, and giving a space of two-and-a-half inches under the frames. My reasons have been given in the back numbers of THE JOURNAL.

Second: I do not extract honey at the close of a honey harvest, as I have found invariably, that the bees will fill up empty combs with pollen to an injury to the colony for winter, as pollen is more susceptible to dampness, and will sour sooner than honey.

Third: I strive to give my bees honey that is gathered in warm weather.

Fourth: I give no upward ventilation, as I have found that the mortality was greatest with those hives that the honey board did not shut tight. If I had upward ventilation I should close the lower, as the bees in a hive are more susceptible of change in temperature where there is a draft through the hive. I am now making hives with the top perfectly tight. For the last two years my bees in tight-top hives have swarmed from

two to four weeks earlier than in a shallow top opening hive.

Fifth: I winter bees in a repository, and try to have the temperature as near 35 deg. as possible, if in cold weather I keep at the above temperature, I can keep it cooler in very warm weather, so that it becomes more even in temperature than if kept at either extreme.

Now, Mr. Editor, I have given some of my notions in regard to wintering bees, and if it does any good I shall be very thankful as I owe THE AMERICAN BEE JOURNAL for nearly all I know about bee-keeping, aside from experience.

I do not know that the bee-keepers of the country, are any nearer agreed as to "what ails the bees" than ever; but it is time the circle grew smaller. I believe every bee-keeper should be a sort of naturalist and philosopher, and unless we are, we shall not succeed in this age of improvement. So I think Mr. Editor, that the question of "how shall we winter our bees successfully" will be overcome, as well as all others essential to success. C. C. A.

Rice Co., Minn., Oct. 13, 1876.

Notes & Queries.

When do bees stop breeding in the fall?
G. HUNT.

When all kinds of forage give out, then breeding will cease.

Hickman, Ky., Sept. 23, 1876.—Please tell me, through THE JOURNAL, the name of the enclosed plant. G. ILISCH.

The fragment of a plant sent by G. Ilisch, of Hickman, Ky., is a species of Thoroughwort, and as nearly as can be determined from the specimen, it is *Eupatorium serotinum*. A very near relative is known as White Snakeroot. C. E. BESSEY.

State Ag'l College, Ames, Iowa.

Which is the best hive for all purposes?
W. LAMB.

The Langstroth hive is more in favor than any other, and we think that the nearer you come to it, the better. There are a few things that may be improved a trifle, but they are not essential.

I want some good works on bee-culture; what would you recommend me to get? Please state the prices. C. DODGE.

Langstroth on the Honey Bee, $2.00; Quinby's Mysteries of Bee-Keeping, $1.50; Vol. I American Bee Journal, $1.25, and the "manuals" as advertised in this JOURNAL, are among the best things to be obtained.

How far should the frames be apart?
JOSHUA COLEMAN.

From centre to centre, these should be about 1½ inches.

Owensboro, Ky., Sept. 24, 1876.—"DEAR EDITOR: Enclosed you will find a sample of the top of a plant that appears to yield a vast amount of honey. It commences flowering in August and bids fair to continue until frost. The main stem attains the height of 6 or 7 feet, and near the ground is about ⅝ or ¾ of an inch in diameter, and square-fluted on the sides; the flowers are purple, with only one petal, and that only on the top side of the flower pod. The bees visit it by thousands from early morn till night. Will you please to give it a name in the columns of the JOURNAL. I also send you a few pods of ripe seed from the same." G. M. WOODWARD.

The plant enclosed by Mr. Woodward is *Scrophularia nodosa*, called also figwort. It is abundant on low ground throughout most parts of the country. Not only is it interesting from Mr. Woodward's standpoint, but its mechanism is very curious, and has long been an object of study to the botanist. C. E. BESSEY

State Ag'l College, Ames, Iowa.

"Is there not some fear that we shall soon stock the world with honey, and that it will become a drug in the market?"
JOHN EMERSON.

No! The market has not yet been developed to one-tenth of its capacity. Every locality should be worked, till this wholesome article of diet shall find a place on every table. The price will come down, but there is no doubt that it will become a staple article like sugar, at no very distant day; and there will be more made than now by the *raiser*. The law of supply and demand will regulate that.

Please tell me which is the best time to commence bee-keeping? Is it not as well to buy now, when bees can be obtained cheap? JOSEPH SCAMMON.

No. It requires skill and care to carry them through the winter, and you should prepare yourself by "reading up" the subject of bee-culture during the winter, and then in May you can safely begin by purchasing one or two hives. Go slow. Understand that to be successful you *must* study the subject well, and thoroughly. If you cannot get the larger works, procure a copy of the first Vol. of this JOURNAL, and one of the manuals, as advertised elsewhere and you can from them get sufficient information to commence.

Pointe Coupee, La., Oct. 10, 1876.—"I send you a specimen of a fine honey plant. I never saw but one stock of it. The bees have been on it from sunrise until sundown for over a month, and to-day it seems only just begun. They just swarm on it. It grows six feet high, the top from this one root is 4 feet in diameter." W. B. RUSH.

It is *Eupatorium scrotinum*, a common plant in alluvial ground; it is a relative of bone-set and also of white snake-root.

Ames, Iowa. C. E. BESSEY.

Our Letter Box.

Wayne Co., N. Y., Sept. 28, 1876.—"I have 60 stocks, and have this year taken 900 lbs. of honey from them, and doubled the number I had in the spring. They are all in fine order for winter. This has been a poor honey season." D. M. KETCHAM.

Breakabean, N. Y., Sept. 20, 1876.—"Last fall I had 39 stocks and 700 lbs. of honey, but this fall I have 66 good stocks and 1,500 lbs. of surplus. My bees are all in good condition for wintering." W. B. BURGET.

Dakota Co., Minn., Oct. 3, 1876.—"The first part of the season was poor for bees, while the latter part has been the best I ever saw. I have over two tons of honey, for which there is not as ready sale as last year. I am selling extracted at 15c.; comb, 20c. I can give you my experience for the last two years, during which time I have lost but one swarm each year. I had 48 swarms last year and 76 now." W. DYER.

[Shall be glad to have you describe your plan of wintering for THE AMERICAN BEE JOURNAL.—ED.]

Owensboro, Ky., Sept. 24, 1876.—"My bees have done well this season. I have increased from 9 to 23 colonies; have them all in two-story Langstroth hives. I use an extractor and hardly think I would keep bees without one. Honey sells well here; could sell several hundred pounds at 12½ cts. in large lots and 16⅔ cts. in small lots; purchaser furnishing packages. Comb honey is worth 25c. at retail and 20c. in large lots." G. M. WOODWARD.

Louisa Co., Iowa, Oct. 5, 1876.—"Our bees have done well; had 4 stands in the spring, increased to 7; extracted 180 lbs. of honey, besides some in boxes, and the hives are full yet. Our bees are much stronger than ever before." MRS. A. B. WINDER.

Warren Co., Ill., Oct. 6, 1876.—"Bees have done splendidly here this year; giving us a magnificent yield of white clover. I tried to keep them from swarming but could not wholly prevent it. I find no trouble now in getting comb honey. The secret is to get the hive full of bees then make their brood chamber smaller, and thus crowd them up to the boxes. I found no need of extracting brood combs, as they kept them nearly full of brood. I have had no success with the Rocky Mountain bee plant, silver hulled buckwheat, lophanthus, or alsike clover. I have tried them all, except the silver hulled buckwheat, several times, and failed. The buckwheat I sowed on a low ground, beside the black, which also failed, this year." L. C. AXTELL.

Clinton Co., Ill., Oct. 11, 1876.—"My bees have done nothing but swarm this season. I shall have to double more than half of my young swarms, and a good many of my old swarms have not enough to carry them through the winter. I did think they would get some honey in September, but it was so wet and cold, that they could fly but little." C. T. SMITH.

Chautauqua Co., N. Y., Oct. 10, 1876.—"I commenced with 9 swarms; have realized 1120 lbs. surplus and 21 new swarms. They have gathered ample stores for winter from buckwheat and smartweed. Have wintered bees successfully 4 years in chaff hives outdoors." W. H. S. GROUT.

Tompkins Co., N. Y., Oct. 12, 1876.—"It has been a very poor honey season here, and bees have worked very little in boxes. I wintered 15 swarms, increased to 25, and took 410 lbs extracted and 74 of box honey. I use the Langstroth hive and have black bees. We have but little good honey in this vicinity. What we have is gathered mostly in the fall from bone-set and buckwheat." JOSEPH SINTON.

Jefferson, Wis., Oct. 15, 1876.—"My method of wintering is the same as that pursued by the late Adam Grimm, of this place. Where I use my straw cover, I give only a little ventilation on strong stocks and none for weak ones. I use strips between hives. My colonies are in a poor condition to winter; several are queenless, and quite a number have not enough stores to winter on—none have any to spare. I found one hive starving to-day. It was a swarm that I put in a hive full of comb, in basswood time. Even hives not disturbed since spring have not honey enough to winter on. I never had as poor a season as the past has been, and I shall be obliged to let my bees out next season where there are not as many bees kept as there are near here. All field crops here have failed, more or less. I hope for a better season next year." WM. WOLFF.

Lima, O., Oct. 17, 1876.—"I keep bees for pleasure, not for profit, but from 24 colonies I have this season taken 400 lbs. of box honey besides 75 gallons of extracted." J. E. RICHIE.

Butler Co., Pa., Oct. 6, 1876.—"As the late Adam Grimm was one of the most successful bee-keepers in wintering, can you give us a description of his manner of packing and ventilating for wintering in bee-house or cellar? I believe much depends on the manner of preparing colonies for wintering. I have put mine in the cellar and bee-house for the past five seasons, and have lost not over two per cent. I have packed the cap full of hay and ventilate in the cap." JACOB PATTERSON.

[It was Mr. Grimm's custom to remove the cover from the hives, slide the honey-board ⅛ of an inch forward, or put ⅛ of an inch splits on the rear end, under it, and then pile the hives 4 to 6 high in rows, leaving space to pass between them. His cellar was ventilated by two pipes 4 to 6 inches in diameter—one near the bottom and the other near the top of the cellar.—ED.]

☞The Rev. W. F. Clarke expects to be at the Centennial Meeting.

☞The North Missouri B. K. Association will meet in Mexico, Mo., Nov. 9, 1876. Communications and apiarian supplies as samples will be thankfully received. P. P. COLLIER.

American Bee Journal.

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To all new subscribers for 1877, we will give the remaining numbers of this year free, or a work on bee-culture, as they may choose.

We will present 100 tulip trees to any person sending one or more new subscribers for 1877. See Club Rates on page 296. The trees will be from 4 to 8 inches high, and will be sent in November or May, as desired. Those desiring these trees must mention them when sending in subscriptions.

When writing for The American Bee Journal it is just as well to write on both sides of the sheet of paper and will save postage. It is usual to ask to have it written only on one side for a daily or weekly, but for a monthly it makes no difference, as we do not "cut up" any article for the printers. We would ask that all items of business, etc., be written on a separate sheet, however, as we file all such for reference.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, DECEMBER, 1876. No. 12.

The Centennial Honey Show.

It is not very flattering to the bee-keepers of the United States to say that the only exhibits of honey at the Centennial, were those of Capt. J. E. Hetherington, of Cherry Valley, N. Y., and Mr. J. S. Harbison, of San Diego, California.

The Cherry Valley apiary, of Capt. Hetherington, made a fine display of excellent white clover comb and extracted honey and beautiful cakes of wax.

The exhibit of California honey, from Mr. Harbison's apiary, was tastefully arranged in a neat case, containing beautiful specimens of comb honey.

With the display of "California Produce" by Mr. Joseph Newman, we noticed some comb honey, also from the apiary of Mr. Harbison.

The largest display of apiarian supplies was that of Messrs. George Neighbour & Sons, 149 Regent St., London, England. It comprised their cottage hive, observatory hive, cottage frame-hive, divisional super, sectional boxes, feeders, wax guides and plates for making them.

An examination of these was very interesting to one familiar with our American inventions. The "Cottage hive" is of rustic appearance, and neatly made of straw, strengthened with hoops, fitting closely to the wood. It is a two-story observatory hive. It has three windows in the lower story, with a thermometer to indicate the temperature; showing the bee-keeper when to open the three entrances to the upper story, over which there are three large bell glasses to be filled with surplus. The upper story fits over these glasses and may readily be removed for inspection. The bottom board is hinged to the lower story.

The "frame hive" has movable frames fitted with staples to keep them at regular distances, resting on a zinc ledge above.

The "frame unicomb hive" is a novelty which must be seen to be appreciated. It is constructed with glass sides (for observation) and protected with Venetian blinds.

The "divisional super" is very much the same as our sectional boxes. It contains 7 sections or frames; the entrance being through perforations in a sheet of zinc, large enough to admit workers, but not the queen or drones.

The other things exhibited by this enterprising firm were well worth the attention of bee men, but we cannot further particularize.

In other parts of the building we noticed the following:

A model of the Dzierzon-Belepsch observatory hive, containing frames.

The "Centennial bee hive" of Dr. Worrell, West Chester, Pa.; a double-story observatory hive, with iron frames.

The "Champion bee hive" of C. E. Bost, of Davidson College, N. C. It is a peculiar invention, and one not easily described.

C. C. Van Deusen, Sprout Brook, N. Y., exhibited his bee-feeder and other apiarian supplies.

R. R. Murphy, Fulton, Ill., had his extractor on exhibition, as well as F. M. Chapman, Morrison, Ill. These are practically the same machine.

A. C. Attwood, of London, Ontario, also exhibited his Canadian extractor.

C. F. Lane, of Koshkonong, Wis., made a good display of the seeds of honey-producing plants and trees, as well as field, flower, tree, grass, and other vegetable seeds. His is said to be the largest establishment of the kind in the world.

East of the Agricultural building, we noticed D. Latchaw's "Union-section extension hive," which contained a strong colony of Italians. Mr. L. was "on the spot" manipulating this colony and showing the advantages claimed for this hive. The frames are the hive proper, having closely-fitting sides and observatory ends. A close inspection of any part of the hive being readily made at any moment, it is fully under the control of the bee-keeper.

On the last day of our visit to the Centennial we were to have met friend Andrews, of Columbia, Tenn., and with him and friend Coe together, inspect Coe's apiary—but alas for all human calculations, through a misunderstanding about the place of meeting we did not find one another, and so did not examine the House Apiary. As friend Coe has already given our readers a

description of it, and will further supplement it with details of results, it is not necessary here to refer to it further. One thing, however, should be mentioned. Mr. Coe has had it on the ground ever since the opening of the Centennial, and has exhibited it to hundreds who otherwise never would have had an opportunity of examining such a thing.

While at the Centennial we met many bee-keepers from almost every part of the Union, and made many very pleasant acquaintances, and trust that next year we shall renew these acquaintances as well as make more new ones.

To Mr. Coe, THE AMERICAN BEE JOURNAL, as well as many bee-keepers, would render thanks for favors and kind attentions. "So mote it be."

E. GALLUP, who for years wrote largely for THE AMERICAN BEE JOURNAL, as a contributor, writes us as follows: "I am now out of the bee business entirely; not because it did not pay, nor because I did not like the business; but because I have gone into another business that occupies my entire time."

☞The Centennial Show, in the language of all visitors, was *simply immense;* creditable alike to the thousands of exhibitors and the youthful American Republic. As our readers have seen detailed accounts in other papers devoted to "news," we shall not take up our valuable space to speak of it further than our branch of industry is interested.

☞As the P. O. Department now refuse to exchange stamps our friends will please not send stamps of higher denomination than three cents each. Ones, twos or threes are always acceptable for amounts less than one dollar. For one dollar and over send bank bills, postal order, or draft. Don't send "checks" on country banks, as these cost us 25 cents each to get into currency.

☞Several valuable communications intended for the present number are crowded out by the report of the National Convention and the prize essays. All will appear in the January number. This will explain to ALL correspondents the cause of delay.

☞A special arrangement has just been consummated, by which we can supply the following for 1877:

A. B. J. and Novice's *Gleanings* for $2.25.
A. B. J. and King's *Magazine* for $2.75.
All three for $4.00.

CALLERS.—B. Stover, Winnebago Co., Ill.; he has 130 hives, and reports an excellent yield and increase.——T. S. Bull, Porter Co., Ind., has 400 colonies, and has had a large yield and found ready sale at satisfactory prices. He winters in the cellar of his workshop, gives fresh air to it often, and has not lost a colony for several years.——W. J. Ronald, Louisa Co., Iowa, called with a frame and honey box, but as we were away at the Centennial Convention we did not see him. He promises, however, to send samples to this office.——C. Kendig, Dupage Co., Ill.; had 40 swarms in the spring; has 70 now and has taken 2,000 lbs. of honey, mostly comb. He winters successfully in a cellar, well ventilated and so made that changes of weather cannot affect it.——Henry King of Kalamazoo Co., Mich., has 25 swarms from 6 in the spring; though he has paid but little attention to them, he has received a fair amount of surplus.——We had an interesting visit from James Heddon. To say that he is returning to old box hives is not strictly "the truth." His hobby is a peculiar hive, something like the British "bar hive," and is more easily manipulated than most persons imagine. Friend Heddon will test it and report, and if he succeeds in showing less expense and more profit, he will deserve the thanks of all bee-keepers.——F. Grabbe, who was located in Wilmette, in this county, has gone to Louisiana with his bees, in the interest, we understand, of a gentleman of this city, who contemplates establishing a large apiary there, under the supervision of friend Grabbe.——Miss S. L. Vail, of Keokuk Co., Iowa; who has 75 stocks from 47 in the spring, besides 700 lbs. comb and 300 lbs. of extracted honey, and reports a good season.——F. M. Chapman, Morrison, Ill.; he has now only 50 colonies, having run his apiary for increase this year, and found for it a ready sale. His bees are in good order; he winters in a repository built expressly for them.

☞In this number we publish the four essays that were read before the National Bee-Keepers' Convention at Philadelphia. The first (by Prof. A. J. Cook) obtained the prize offered. A careful reading of them all will benefit those who seek light on this all-important subject.

☞We have received an interesting report of the proceedings of the German and Austrian Bee-Keepers' Convention from R. Mayerhoffer, Esq., editor of the *Bienenvater* in Prague, Austria. It will appear in the January number.

Our Exchanges.

GLEANINGS IN BEE-CULTURE.

In our last issue we stated that Novice intended to winter his bees out of doors. "Chaff" is his hobby now. He gives the following as his method of

PREPARING FOR WINTER.

"A frosty morning is an excellent time to remove a set of section boxes and put on the chaff cushions. Approach the hive quietly, and get your screw-driver under the case of sections, or the upper story containing them, and with a quick movement you can snap all attachments, and get the boxes off before a bee has waked up; but now comes the time for action. Have your sheet of duck in readiness, and before a bee can get to the side of the hive, have the cloth tucked closely down all round; put on your cushion, then the cover, and you are all right. If it is an upper story, you can put it back, or another, before you put in the cushion, be sure that you get it all fixed before the bees have time to boil out. They will very likely gather out at the entrance, but don't insult their dignity by walking before them, and all will be well. If you are clumsy, and do not get things fixed expeditiously, you may find hybrids rather worse in frosty weather than at any other time. In fixing our old standard or long hive, we took too much time, and all hands waked up to such an extent that they took entire possession of the corn-popper smoker, and came at us like a very young hail storm. Many of the yellow stocks, will hardly stir, when we raise off a whole set of section boxes."

Novice also gives the following as his method of

PREPARING BEES FOR SHIPMENT.

Be sure the colony has old, strong combs, not too heavy with honey; the great bulk of stores should be near the top bars. If the combs are all right without breaking the fastenings made by the bees, all the better, and you have then only to make the frames secure as they are. We prefer pushing sticks, sawed to the right length and thickness, between the end bars of the frames; this makes all solid and secure, and yet the sticks can be pulled out without removing the combs. Lay another piece across the frames at each end, and fasten it with screws, and the hive will be safe, even if it should be thrown upside down. If the hive has a portico, cover it with wire cloth and let the bees get out in it if they wish; if it has none, cover the frames with wire-cloth, and fasten the cover a little open. If the weather is warm, and the colony very strong, it will be safer to allow them to leave their combs and cluster in an upper story, but ordinary colonies in cool weather may be simply confined with wire cloth. The surface of wire cloth must be large enough so they cannot pack densely over it, or they will be ruined. We have many times seen them, when released, crawl out of their hives in every direction in the dirt, completely demoralized; from insufficient ventilation."

LARGE AND GOOD CROP OF HONEY.

J. S. Hill, Mount Healthy, O., has a honey crop this year of 10,000 lbs. He commenced in the spring with, I believe, 84 stands. He raised also 6,000 lbs. of machine extracted honey, as nice as anybody has, and you know we feel a little proud of the quality of the honey raised in this part of the country. I bought all of his honey, and I am sure I have never before seen as nice a lot of comb honey as Hill's. There was about 3,800 lbs. in combs weighing from 1½ to 1¾ lbs. each. Every comb in the lot was perfect and separate from the rest; it is a model lot of comb honey, and it would do you good to look at it.—*C. F. Muth, Cincinnati, O.*

MOONS' BEE WORLD.

CARNIOLIAN BEES.

Ch. Dadant says he received his expected shipment of Carniolian bees, but only three were received alive. He describes them as follows:

"These queens are as dark as common queens, with some narrow strips of dark leather color. But they are very large. Generally after a long journey the queens are small. The Carniolian are as big as good laying queens, of course it is to be presumed that they will enlarge when rested and laying. The size explains the great fecundity attributed to these queens. Yet it is to be regretted that they are so dark, for their color will prevent their introduction among the lovers of yellow bees. These bees are received for experiments and not introduced for sale."

BEE-KEEPERS' MAGAZINE.

The November number has among other things the following advice, by the Rev. J. W. Shearer, for

STARTING AN APIARY.

"A novice in the business should never attempt to start on a large scale. He should begin with not more than three hives, and increase these as his knowledge and experience increases, by swarming and by procuring from abroad, if thought desirable, after two years experience. The easiest way to get a start is to secure a swarm from some neighbor.

A first swarm is always to be preferred, and if possible from a hive which was known to have swarmed the last year, for then the old queen will be in her second year, vigorous and at her best. A small, late second swarm should be passed by in purchasing. Arrange the frames 1⅜ inch from centre to centre, tilt the hive forward at an angle of 20 or 25 deg., and they will be almost certain to build straight on the comb-guides. If an old hive is purchased let it be a heavy one in the spring with straight comb coming entirely down to the bottom of the hive. Carry it home in your arms or in a spring wagon. Remove it very early in the morning or late in the evening when all the bees have returned home, that none be lost. Blow a little smoke under it, reverse, cover with a piece of cloth which may be fastened by tacking a string around it or strips on the ends, place it on straw in a wagon with the comb running lengthwise the vehicle, drive slowly home and there is

no danger. Handle carefully, and transfer into a movable comb hive, and you are ready to study the mysteries of bee-keeping. Sometimes a start is obtained more easily by taking on shares from a neighbor who already has them in improved hives. They should always be moved at least a mile else many will return to the old stand and be lost. Sometimes bees may be captured from the wood by alluring into an empty hive, entrapping and furnishing a queen as already described. Hives may be increased by having nuclei with fertile queens in the fall and extra combs filled from strong colonies, and increasing to the proper size by "taking up" hives for your neighbors who work on the old plan, and uniting them with the nuclei in the manner heretofore recommended. Be careful to insert combs having pollen into each hive thus made."

J. P. Bruck, our popular friend and president of the county bee-keepers' association, is still at the Los Angeles hotel, in our city, in quite feeble health. Mr. Bruck has done much for the advancement of the apicultural interest in this portion of the State, and we trust that he may be spared for many years of usefulness in the hive of industry. —*Los Angeles (Cal.) Herald.*

Our Letter Box.

Pointe Coupee, La., Oct. 30, 1876.—"Nice and warm weather, and bees gathering honey from aster." W. B. RUSH.

Fairfield Co., Conn., Nov. 13, 1876.—"My bees have yielded 1,000 lbs. of comb and extracted honey this season, besides increasing from 23 to 34 colonies. They are now all in good condition for winter."
S. W. STEVENS.

Santa Clara Co., Cal., Nov. 1, 1876.—"I use the Langstroth hive, with shallow frame, 7 inches deep. The honey-producing season in this part of California has been very good; I have taken from 3 swarms 670 lbs. of extracted honey, and could have taken 100 lbs. more; have increased to 9. Lost by fire in the first season 17 swarms."
S. S. BUTLER.

Hamilton, Ontario, Nov. 13, 1876.—"This has been a grand year for honey in this section. I have extracted, on an average, 100 lbs. per hive, and my bees are in splendid order for winter, with 40 lbs. each, more honey than they will use in my cellar this winter."

"I was much disappointed when arriving at the Centennial on the 6th of Oct. to find an industry so important as that of bee-keeping so poorly represented. But had I not been called away on the 22nd, I might have seen more, as the 25th was the day for a special show. The show of honey in small glass boxes was grand, from Capt. Heatherington of N. Y.; and Mr. Coe's Bee House, which I am not yet convinced is much improvement, though Mr. Coe takes great pleasure in showing all its good qualities, and any other information in the business. He seems to be the only bee commissioner there." W. G. WALTON.

Warren Co., Iowa, Nov. 1, 1876.—"I had 9 colonies last spring, increased to 31, and extracted 1,400 lbs. of honey. They are now in good condition. I use the Langstroth hive." D. E. BRAUGTT.

☞ This number contains "Title page and Indexes" which will be found very convenient for binding the year's numbers. Taken as a whole the volume for 1876, now complete, contains much valuable information.

☞ H. F. WALTON, Grant County, Wis., writes that he has received Vol. I. of THE AMERICAN BEE JOURNAL, and that he is very much interested in its perusal. Those who have never read it should procure it, as there are now but a few copies left, and those few fast getting *fewer.*

☞ From 1,500 to 2,000 of our annual subscriptions run out with this number. We trust all will be prompt in renewing. We intend to make the next volume better than any that has ever preceded it.

The National Convention.

A goodly number of bee-keepers met at Coe's House Apiary on the Centennial grounds, Philadelphia, at 10 A. M., on Oct. 25th, and organized temporarily as follows: R. Bacon, President; J. H. Nellis, Secretary, and J. P. Moore, T. G. Newman, J. S. Hill, J. S. Coe, and R. Bacon Committee of Arrangements. Adjourned to meet at the Atlas Hotel at 7 P. M.

The committee arranged the following programme for the evening meeting—topics for discussion:

Introducing Queens—opened by Dr. E. Parmly, of N.Y.

Uniting Weak Colonies—G. W. Zimmerman, of Ohio.

How to Control Swarming—R. Bacon, of N.Y.

How to Produce the Largest yield of Honey per Hive—J. S. Coe, of N. J.

How to obtain the most Industrious Bees —J. P. Moore, of N. Y.

How can the Interests of the National Bee-Keepers' Association be best Promoted —J. S. Coe, N. J.

On Thursday evening, the grand topic for discussion was "Wintering of Bees," and the reading of prize essays, followed by discussion.

WEDNESDAY EVENING.

INTRODUCING QUEENS.

Dr. E. Parmly (N.Y.) remarked that in introducing queens there had been successes and failures in every method published. He had had many years experience, and was usually successful. He took a piece of wire gauze 3 or 4 inches square, and bent it into a cage, taking out several wires one way, and placed the cage containing the queen over the hatching brood, to get heat from below.

Pres. Bacon (N.Y.) said he had not been successful, and wanted light.

J. P. Moore (N. Y.) said he placed the cage between the brood combs for 48 hours, and was generally successful.

J. H. Nellis asked if caging queens did not sometimes result in their starving. He recommended that when caged, food be put in isolated position, from which the queen could feed. When bees are intent on rearing a queen from their material, they sometimes refuse to feed the queen in the cage.

G. W. Zimmerman (O.) had introduced queens in cages from 36 to 48 hours, (if bees clinched the cage, it was not safe); he then inserted a piece of filled honey comb into the cage and when they had eaten through this, it was safe to let her crawl out into the hive. He thought it advisable to cage the queen always, for sometimes the bees hug her to death.

J. H. Nellis remarked that he would not cage a weak queen.

T. B. Parker,(N. C.) had caged a weak queen 60 hours, that had been out 14 days, and she did well. He said queens were often released too soon.

J. S. Coe (N. J.) had caged a weak queen with no workers, that had been injured by a fall. She was fed by the bees, and did well.

T. B. Parker often let a queen loose outside the hive and let her run in.

G. W. Zimmerman had removed black queens and liberated Italians in that way.

A. L. Stanton (N. Y.) pinched the old queen to get the scent; this he rubbed over the Italian queen and immediately released her. He always selected his best queens and introduced 4 out of 6 successfully in that way. Rearing queens wasted too much valuable time in the busy season.

UNITING WEAK COLONIES.

G. W. Zimmerman had made up 40 to 60 full colonies from weak ones, and 7 colonies from nuclei, and wintered them all safely. He filled them with liquid sweets, supplied them frames of comb a little before sundown, when it was a little cool; caged the queen between the frames, and shook the bees down and left them till morning, when they would be all ready to work.

H. L. Leonard (Vt.) asked Mr. Z. if he took the queens away?

G. W. Zimmerman answered that he removed both queens, but introduced one at once. If done late in the season they would create heat by clustering, before morning. He disorganized the stronger colony and put in the weak one with it—and had always done it successfully.

J. L. Beal (Pa.) asked if Mr. Z. confined them in a dark room?

G.W. Zimmerman—Yes; when necessary.

J. L. Beal said he confined and took them to a dark room and united—and after 48 hours to 3 days there was no danger of their returning to their old stands. He let them destroy one of the queens.

Mr. Bradley (Mass.) had doubled 20 or 30 weak colonies. He removed the queens and shook them up on a cloth and let them run into the hive. He found they did not quarrel. He always caged the queen from 12 to 24 hours.

N. N. Betsinger (N. Y.) practiced removing the queens and then throwing them together.

T. B. Parker (N. C.) united colonies successfully by putting a board between them, with a hole in it, late in the evening, and closed the hole for 24 hours, then opened the hole and let them crawl through to the other colony.

Jas. Williams (Tenn.) united successfully late in the fall. The hives being twenty to thirty feet apart are moved nearer every 2 or 3 days, till they are close together. He then removed the queens, took a fresh hive and put in the middle frames from each hive alternately, and then gave them a queen.

Mr. Crane (Vt.) said that it may be a good way, but it is tedious. He took away the queens and stores from weak stocks and let them realize that they were robbed of all but their hives, and then fed them with honey and put them together.

HOW TO CONTROL SWARMING.

R. Bacon (N. Y.) had tried and found how difficult it was to prevent swarming. When they had the fever on, it was hard to get it off. His best plan was to open the hive, after the first swarm came out, and destroy all the queen cells in the frames, and then hive the swarm in the old hive. He had no failures by this plan, and it was an important matter in getting a large yield of box honey.

J. H. Nellis (N. Y.) remarked that it was essential to have one swarm. Then it would be well to have "*cool* headed bees." Some lazy Italians like to swarm, but all preferred cool, industrious bees! He found that they did not swarm as much when a loosely-fitting frame was used. He kept them at work by piling on boxes, and cutting out the queen cells.

J. S. Hill (O.) said that the swarming fever varied with the seasons. He controlled swarming by adding box room as needed. He provided a fertile queen, destroyed all their queen cells and kept them at work in boxes.

G. W. Zimmerman had 175 colonies, but never saw one of them in the air. He kept them shaded, and by keeping the brood chamber cool he prevented swarming.

Jas Williams (Tenn.) had his hives painted a different color on each side—red, white, blue and gray—with a movable alighting-board on each side, which he could so manipulate in the middle of the day as to control swarming by having the hive with four divisions, and compelling those flying out to return to any compartment desired. He let them use the different entrances for ten days at a time, and thus by rotation entirely controlled swarming. He had 300 colonies.

HOW TO PRODUCE THE MOST SURPLUS.

J. S. Coe said that the point was how to produce the largest yield of honey for a term of years—how to make the most money from the bees as a regular income. If swarming can be controlled and colonies can be successfully carried through the winter and spring, an average yield can be depended upon. Healthy, strong colonies in the spring, full of brood, and in condition for gathering when fruit bloom comes, were indispensible. This state could be obtained only by feeding early in the spring; and thus having them ready when fruit bloom came to gather it in.

L. C. Root (N. Y.) remarked that it was absolutely essential to have colonies strong in the spring, in orper to be profitable.

HOW TO OBTAIN INDUSTRIOUS BEES.

J. P. Moore (N. Y.) remarked that the only way he knew was to get good queens

and as hybrids were the most industrious bees, he should say—hybridize.

Mr. Crane (Vt.) found that many colonies were unproductive, and that bees differed in constitution and industry. The safest way was to breed from the most vigorous colonies and increase to strong stocks.

L. C. Root (N. Y.) had received 60 untested queens from H. Alley, and all were very superior. The way was to breed up, and avoid breeding in and in. He felt sure that several were breeding very carefully and with a large percentage of pure Italian bees of industrious, prolific character.

THE NATIONAL ASSOCIATION.

J. S. Coe (N. J.) remarked that the National Association should be supported. The chicken interests supported its national association and took means to perpetuate the organization. Each State should be represented by delegates. The State organization should be composed of delegates from county bodies—and they from township societies. The great questions of how best to dispose of our honey, belong to such bodies. We should study to bring producer and consumer together.

Dr. Parmly (N. Y.) said that chickens were gotten from all parts of the world—and we should get bees not only from Italy but Africa, and all parts of the world, to improve our stock. The National Association should import, experiment and find out what to use and what to discard.

J. H. Nellis remarked that by organization we could do many things that now was impossible. The plan mentioned by Mr. Coe was the best way. Delegates should be sent and their expenses paid. They could be instructed to have various themes discussed, and if a fund was provided, prizes could be offered to bring out the best intellect in the country, and thus perfect the science of the apiarist.

R. Bacon remarked that honey was not second to poultry in importance, the world over. If a proper stand be taken we can sustain a successful National, as well as State, county and township organizations.

THURSDAY EVENING.

The Association met and as the first business was the election of officers for the coming year, they appointed a committee to nominate them.

While the committee were in session, Thomas G. Newman remarked that one of the great questions now agitating the minds of bee-keepers was—"How to dispose of honey to advantage." He said that the price asked was no doubt a *fancy* one, and that the sooner it was lowered, the sooner honey would be taken from the list of "luxuries" and be brought into general demand. Now only the rich and extravagant used much honey for the table—but the time was not far distant when it would be used by families of moderate means, and take its place beside that of butter, cheese and cream. If bee-keepers would create a home demand for their honey, by offering it at a reasonable price, they would still get as much as they now do, and save the commissions of middle men, and at the same time be vastly increasing its consumption.

L. C. Root remarked at some length upon his mode of treatment. He said that he permitted swarming just as little as possible, and prevented the desire to swarm; he had taken 10,271 lbs. of honey from 119 colonies.

The committee reported, and the following were duly elected officers of the National Association for the current year: W. J. Andrews, Tenn., President. N. N. Betsinger, N. Y.; J. S. Coe, N. J.; R. R. Murphy, Ill.; G. W. Zimmerman, O.; J. Vandervoort, Pa. — Vice Presidents; J. H. Nellis, Secretary; J. S. Hill, Treasurer.

New York City was selected as the next place of meeting, and the third Tuesday of October, the time. J. S. Coe was instructed to make all necessary arrangements.

The Secretary was instructed to issue an address to the bee-keepers of America—earnestly advising them to organize, and protect their interests; and also to send one or more delegates to the next National Convention, instructed as to how it can best advance the individual interests of bee-keepers at large.

Some desultory conversation was then indulged in by those present, and then a vote of thanks was passed to the proprietors of the Atlas Hotel for so liberally placing its comfortable parlor at the disposal of the Convention.

The essays, for which the N. E. Bee-keepers' Association had offered a prize, were then read. The prize being already awarded by the committee to the essay of Prof. A. J. Cook, of Lansing, Mich.

L. C. Root (N. Y.) remarked that one of the principal points for successful wintering was *perfect quietude*. If the bees were in good condition he never opened his depository from Nov. 15 to May 1. He kept a thermometer suspended through a hole in the floor above, and the temperature did not vary all winter only between 45 to 50 deg.

After some further discussion the Convention adjourned to meet in New York on the third Tuesday in October, 1877.

[Owing to the wonderful grandeur and extent of the display in the Centennial Exhibition it was deemed prudent only to hold sessions at evening. This, together with the natural pressure of business, makes this report rather brief.] J. H. NELLIS, *Secy.*

For the American Bee Journal.

The Prize Essay.

The centennial committee of the North-Eastern Bee-Keepers' Association appointed as the committee of judges on the essays: J. P. Moore, of New York; H. Alley, of Mass., and J. S. Hill, of Ohio.

The judges convened and performed their duties on Thursday evening, Oct. 26.

Four essays were presented, all very useful and instructive papers. The gentlemen who sent the essays are Rev. E. C. Briggs, of Iowa; Dr. W. B. Rush, of La.; Wm. H. S. Grout, Esq., of New York, and Prof. A. J. Cook, of Mich.

After due consideration, the committee awarded the prize to Prof. A. J. Cook, of Mich.

This seemed a worthy decision. We can only regret that low finances restrained our giving a prize to each worthy competor. We can but hope that the unsuccessful may appreciate their reward in the good done the mass of apiarists who have failed heretofore in wintering their bees.

J. H. NELLIS,
Sec'y of North-Eastern B. K. Association.

Wintering Bees.

THE PRIZE ESSAY READ BEFORE THE NATIONAL BEE-KEEPERS' CONVENTION AT PHILADELPHIA, PA., OCT. 26th, 1876.

Few manual labor pursuits possess the fascination or the financial possibilities that may be justly claimed for apiculture. Remove from this the uncertainties, with which the late disastrous winters have served to invest it, and it would stand paramount. Hence it is that this subject of wintering bees is of leading importance and well deserves the earnest thought, careful study, and accurate experiments of the most able of our practical and scientific men.

In a brief consideration of this important theme, let us examine the physiological facts that bear upon it, glean what we may from the fields of experience, and then see if we may come to any conclusions that appear to be justified by the premises.

It is a physiological fact, without exception among animals, that exercise and the power to generate any considerable amount of heat, requires food and necessitates excretion. It is further true that bees, unlike most insects, are like the higher animals, more or less active the winter through, and can only subsist in a temperature independent of the surrounding media, which is maintained by the bees themselves. If the temperature of the surrounding media is neither extremely high nor extremely low, that is if it keeps at the proper uniform standard, the bees, like higher animals in like condition, will exercise little, will take little food—and by food I mean all nourishment, including oxygen—and will consequently excrete very little, either in form or fæces, or by evaporation from the general surface of the body. It is further true that bees, from the fact of their confined situation in winter, cannot excrete excessively without rendering the atmosphere about them unwholesome and even poisonous; this with undue fecal deposits is sure to bring disease. Hence our first truth: successful wintering demands a uniform temperature.

It has already been stated that bees take food during the winter. Whatever the temperature, some food is consumed. Now it is a physiological fact, unquestioned, that good health among all animals demands proper food. As tainted water often brings dysentery and death to hosts of our own unfortunate brothers, so no less will unwholesome food bring disaster to the denizens of the hive. Hence our second truth: to winter safely, our bees require sufficient stores of good wholesome food.

The student of bees need not be told that the worker bee is possessed of no great longevity. A worker bee three months a laborer is aged and infirm. It is equally patent that winter is the trying period when the "struggle for life" is sure to come to the bees. Does the leader of a trying campaign call to his aid men feeble with years, whose very age makes them topple and fall under the first burden that is laid upon them? No more should the apiarist expect a colony of old bees to be able to stand the trying ordeal of winter, and build up the depleted household to its wonted strength as spring draws on. Therefore we announce our third truth: bees to winter well, must be strong in youthful vitality as well as in numbers.

It has been stated that excretion is a certain result with bees, even in winter; though this will be slight if the temperature be kept just right To prevent any ill-effects from an accumulation of these elements of destructive assimilation—water and noisome gases—there should be absorbents above the bees, which would not only absorb the moisture but permit the gases to escape, without exposing the bees by a too rapid removal of heat. Our fourth and last truth then: covering the bees with some absorbing material that is at the same time a poor conductor of heat, is condusive to safe wintering.

Now let us see if recent experience has sustained the above conclusions; for if we are sure of our diagnosis we may feel confident as to practical results.

And first as to temperature. It is a significant fact that those winters which have been most disastrous have also been characterized by extreme cold. I am well aware that many colonies of bees perished during these winters that were independent of the cold. But we must remember that this is a complex subject, and that several elements must be considered in solving the problem. And just here I would call attention to the fact that many apiarists, because of the complexity of this subject, and because it would not yield a simple solution, have become alarmed and cried epidemic. It is not necessary to show that cold is the only cause of disaster. I myself lost heavily the first cold winter, with my bees wholly protected against the extreme cold. Yet the reason of the mortality was not difficult to find, as will appear in the sequel. During the terrible winter of 1874-5, terrible alike for cold and for bee-mortality, I supervised the preparation of four apiaries for winter. With my own I tried the experiment of putting them into a new depository which I supposed to be frost proof; but during the unprecedented cold of Feb., when the thermometer on three occasions went 25 deg. below, and once to 32 below zero; the mercury in my building even went below zero, near which it remained for a number of days. My bees all died. All three of my neighbors, two of whose bees were not so strong as mine, whose bees I had prepared in precisely the same manner, except that they were amply protected against the severe cold, passed the winter with no loss.

During the winter of 1872-3 I also prepared my own bees and those of one of my neighbors for winter. These were amply protected, and came through not only without loss but in excellent condition. So far as I know there were no other bees saved anywhere in the town.

My friend Mr. John Davis, of Delhi, has passed all these winters without loss. He protects his bees, never allowing the temperature of his cellar to fall below freezing point.

That able and far seeing apiarist, the lamented M. Quinby, was one of the first to discover this fact; and here as elsewhere he gave advice, that if heeded would have saved great loss and sore disappointment.

I could give much further evidence of the same kind were it required, but will only say that though I have studied this subject widely and closely, I have yet to observe aught to invalidate the above stated truth.

We next come to view the second factor in safe wintering: sufficient and wholesome food. That bees need some food to stand between them and starvation, experience has too often proved. This fact will receive universal credence. But that the stores are not always of a suitable character though just as true, is not well understood.

The autumn of 1871—the year of Chicago's great calamity—will ever be memorable throughout our northern States for its unparalleled drouth. Every green thing, flowers included, shriveled for want of moisture. Thus bees were cut off from their usual source of honey. During the same autumn there were an unusual number of plant and bark lice. The willows, the beeches, the tulip trees, in fact almost every plant supported some species of these families of vegetable parasites. The same excessive drought that blasted the flowers favored the development of these withering insects. The bees ever eager for sweets, not able to sip from the flowers, gathered largely from these lice, which secreted a sweetish substance from their bodies. Many observed, and I among the rest, a large amount of uncapped honey or stores as they prepared their colonies for winter, and wondered at so unusual an occurrence. During the succeeding winter I experienced my only other case of disaster in wintering. To be sure the winter was cold, but my bees were so protected that they felt it not. My twelve colonies went into winter quarters quite strong and in fine condition every way, except that they were provisioned with this uncapped honey, which I supposed would be fully capped, as there was yet abundance of time after I last looked at them in the fall. In February I examined my bees and to my great surprise, for this was my first misfortune with bees, I found eight of the colonies dead. I was no less surprised to find the honey still uncapped. Bees usually gather honey and leave it to be capped when the condition becomes such as to warrant it. This never reached the condition of good honey. May this not be why it never was capped? I tasted of the honey and found it nauseating in the extreme. I believe that this unsuitable food killed my bees. What makes this seem more probable is the fact that one of the four remaining colonies, all of which seemed equally diseased and feeble, from which I took all the stores, replacing them with good capped honey, stored early the previous season, commenced at once to revive, recovered entirely before spring, and gave a net return of over seventy dollars the succeeding season. The remaining colonies, which were cleansed of dead bees, permitted to fly, but which retained their unwholesome stores, soon perished. The following spring I examined several defunct apiaries in this vicinity, and in every case found the same condition of ill-tasting stores. Those who, like Mr. Davis, saw that their bees had only good capped stores and were well protected did not suffer loss. Hence I think I am safe in affirming that in this region, one of the chief factors which wrought the disease of that year was unsuitable food.

Our third truth that colonies should be plenteous in young bees as winter draws on, is so compatible with reason that it seems hardly necessary to substantiate it with experiments. In my own experience I have only negative evidence. I have always kept my bees breeding well into autumn and have never suffered by spring dwindling. Mr. Davis reduces the number of his colonies each autumn by destroying the old bees and uniting the young ones, till each colony is strong, and has never suffered loss. A year ago I thought I would put this matter to a test in a small way. In one hive I permitted no brood to hatch after the middle of August but kept the colony strong in old bees. The colony was permitted to fly once during the winter, seemed in good condition, yet showed more dead bees than any other colony. They lived till spring when they died, young queen and all, though the queen lived till after every bee had shuffled off this mortal coil. I hence affirm that whenever there is no fall storing so that brood rearing stops in August, whenever the queen becomes impotent so that she fails to deposit eggs to any considerable number, or whenever the autumn honey yield is so bountiful that the queen has no opportunity to deposit, as has been the case here the present autumn, then the careless apiarist is in imminent danger of experiencing spring dwindling.

All experience shows the importance of absorbents above the bees, for what observing apiarist has failed to notice the moisture in his hives in winter which often induces fungus growth, as seen in mouldy comb. Or in cold winters has failed to note the moisture changed to frost, which in severe weather approximates too near the cluster, often keeping them from the needed stores. Of the evil effects of confined gases I know nothing from my own experiments, and know of only one man who has experimented carefully in this direction—my friend Mr. Townley, of Jackson Co., Michigan. His experimenls as given to me confirm the truth enunciated above. I presume in most cases these gases find means of exit and are harmless.

What are the requisites to safe wintering?

1st.—The colonies must be kept in a uniform temperature, which should never vary beyond the minimum temperature of 35 or the maximum of 45 deg. This may be safely secured by placing them in a dry, dark, well-ventilated cellar, which shall maintain the required temperature. Or in a house with double walls, enclosing a space wide enough when filled in with sawdust to be frost proof, even during the severest winter, and so arranged as to be ventilated without admitting the light. The same results may be gained with the colonies on their summer stands, if we but place boxes or boards around and above the hives, leaving a space of a foot or more to be filled in with sawdust, chaff, straw, or shavings, all of which I have used with perfect success. In this case it may be well to use a tube or portico to the hive so that the bees may fly out should the weather be warm for so long a time that the bees would become overheated and uneasy. The same object may be gained by leaving the front of the hive, which should face to the east, unprotected. Could we be sure of sufficient snow so that our bees could be covered deeply the winter through, we could ask for nothing better. I never had my bees do better than when thus protected, during the disastrous winter of '72-3 when my bees, and those of a neighbor which I arranged, were all that survived in the whole neighborhood.

2nd.—The bees should not go into winter quarters without at least 30 lbs. of good capped honey. If the combs contain uncapped honey it should be extracted. If the apiarist has not the requisite amount of suitable honey it will do equally well to supplement his supply by feeding good, thick honey which has been extracted early in the season, or if that be not at his command a syrup made of coffee A sugar of the consistency of honey, or just so that it will not crystalize upon cooling, will answer equally well. Perhaps the most convenient method to feed this is to put it in a bag made of drilling which is tacked to a strip of wood just like the top bar of a frame, except that it is two inches wide and has a hole cut in the centre 1 inch wide and 2 inches long. Hang this between the frames and the end of the hive, then pour in the honey or syrup. The bees will sip it up and store it away as it oozes through the feeder. Of course the bag should not reach quite to the bottom or sides of the hive. The feeding should be done as early as the last of September, so that the bees may have time to cap the cells before the weather is too cold.

3rd.—Any impotent queens or any not first-class, should be superseded early in the season. If the bees stop gathering in August, feed sparingly, as described above. One-half pound daily will suffice. Again if storing be very rapid in August and September, as it is likely to be where fall bloom is plenty, the honey must be extracted, so that the queen may have a chance to deposit eggs. Brood rearing would have entirely ceased in all my colonies the present season as early as August had I omitted to extract. As it is there is brood in nearly all of them to-day—October 18th. Those apiarists about here who have not extracted may look for spring dwindling the coming spring.

4th.—Immediately above the bees there should be placed a quilt made of good factory, and still above this if the hives permit as in most cases they will, there should be placed a factory bag filled loosely with chaff. This may be from 6 to 12 inches in thickness.

So sure am I that the above methods will succeed without fail, that I sell my bees in autumn, warranting them to winter if I can oversee the preparation. A. J. COOK.

On Wintering Bees.

AN ESSAY BY THE REV. E. L. BRIGGS, READ BEFORE THE NATIONAL B. K. ASSOCIATION, OCT. 26, 1876.

Having investigated this matter closely for years, it is my opinion that THE GREAT and ALL-IMPORTANT MATTER now to be understood, is, *how to manage the apiary so as to carry the bees successfully through the interval from the first of November to the time of fruit blossoms in the spring.* Give to the bee-keeper this knowledge, and bee-keeping is a success.

For the past ten years I have lived right in the midst of the "bee-disease," by which hundreds of colonies have perished all around me; and up to this hour not a colony has perished in my possession from this epidemic, of which I had the handling in the fall and winter.

Forty-eight colonies were wintered at Ottumwa, Iowa, under my direction in the fall of 1871-72, without the loss of a single colony, when other bee-keepers lost almost their entire stock.

I also wintered twelve colonies at home in 1869-70, when every other person suffered great loss, losing none of them; while with sixteen of my colonies which were taken care of by another person, all but two died.

Having investigated this matter to my entire satisfaction, and believing that I can impart the secret of almost entire success, I shall proceed to give my method in the most concise manner, and I shall first notice

THE CAUSE OF LOSS IN FALL AND WINTER.

There are four prominent causes of loss, viz:

1. Starvation.
2. Intense and protracted cold.
3. Damp mouldy combs.
4. Unwholesome or vitiated winter food, causing the so called "bee-cholera."

The one remedy which I propose, will cover in a measure all of these four causes of loss. But I shall first speak of them separately. First:

CAUSES AND REMEDY OF STARVATION.

Starvation will result where the colony lacks a sufficient supply; of course, in the latter part of winter or before spring flowers come, earlier or later in proportion to the amount of honey on hand in the fall, the larger number perish—after moderate weather comes in the spring. The most fatal time is from one to three weeks before the opening of apple blossoms; and if these fail to yield honey, and cold raw weather continues, the danger increases until the blooming of white clover. Fifteen pounds of honey in the hive in the fall, when they go into winter quarters, will under ordinary circumstances give them an ample supply during the five months from November 1st, to March 31st. But it must be real honey, or good syrup made from white sugar of about the same consistency of ordinary honey. Bee-bread, or any other substance will not answer as a substitute. It must be fifteen pounds of *honey* or *syrup*. The cost of 15 pounds of syrup would be about one dollar and a half, when sugar costs 12½c. ₱ lb; and there is no more excuse for letting a colony of bees starve for the lack of a dollar and a half expense, than there would be to let a calf, sheep or other animal starve, because the food necessary to winter it would cost a dollar and a half.

To feed them this syrup, nothing more is necessary than an ordinary glass tumbler, a piece of new cotton cloth, and some wrapping thread. Pour the syrup into the tumbler up to the brim, lay the cloth smoothly over the top, and with the wrapping thread bind the cloth tightly around near the top of the glass, and then turn the glass bottom side up over a hole, upon three little sticks, so as to keep the mouth half an inch above the honey board; do this just at sundown, and the bees will suck the syrup through the cloth and carry it below before morning. Always keep the glass protected from outside intruders by putting on the cover for the honey boxes. For spring feed, in case of destitution, a jill each day will be sufficient to supply their wants, and will also promote early breeding. At the same time give them rye or wheat flour in some sunny nook, spread out thin upon some

boards or shallow box, as a substitute for pollen, until this is supplied naturally from the trees.

INTENSE AND PROTRACTED COLD

is another cause of great loss of bees every winter. In the early part of winter the combs are often filled with sealed honey down almost to the very edges. When this is the case, the cluster is divided off into several little thin layers between the combs, each not over a half inch in thickness, while the combs themselves are nearly an inch thick, keeping these layers thus separated by this inch of comb and honey, which will become cooled down to the freezing point, or below, by the first severe cold of December, often freezing all the bees in a mass at once when they are left on their summer stands, at the beginning of winter. But if fortunately the bees have consumed all the honey within a compass of about four inches every way from the center of their cluster, their winter preparation is now in the best possible condition to resist almost any degree of cold, until they are compelled to leave the cluster in search of new supplies of food. If there is plenty of sealed honey above them, or at the ends of the same tiers of comb, they will gradually move into contact with this honey, and no considerable loss in bees is realized, for they continue to form a dense mass, filling combs and spaces and the requisite warmth is maintained. But if the cold is protracted for weeks together, after they have consumed all the honey in the combs in which they cluster, they cannot cross over to other combs now filled with frost like a mass of snow, to get to their needed supply; consequently they will either starve to death where they are, or freeze in the attempt to reach their frozen supplies. But if they escape both of these dangers, that is—in the fall *in having no convenient clustering place*, on account of too much honey, or later in winter *in not having enough* honey within their reach—on the recurrence of a warm day the frost may melt, and either stand in drops all through the hive, or run down upon the mass of bees, and accumulate upon the bottom board; in which case cold, damp, mouldy combs will result, causing the bees to gorge themselves with honey to keep up their animal heat, and this in turn will result in dysentery,and a large and often total loss of bees.

This loss caused by

DAMP MOULDY COMBS

can be prevented by the method we shall lay down presently, or by a return to the old fashioned "box hive" or "gum" in which the cluster fills the whole diameter of the cavity in which they are lodged, and is always directly under the honey which constitutes their stores, so that the cluster only has to gradually move upward as the honey s needed, in order always to have it within reach, as long as there is any in the hive. But this shaped hive, notwithstanding its advantage in the above respects, will never be adopted as long as surplus honey is the object, without the use of the "Brimstone pit."

A small amount of ventilation by raising the cover, leaving a crack all around of about an eighth of an inch wide, is a partial remedy, but not an entire preventive in our northern latitude.

But by far the greatest cause of winter loss, consists in the fact, that the bees have gathered and laid up

UNWHOLESOME OR VITIATED FOOD.

This is the great and wide-spread cause of the bee cholera, dysentery, bee epidemic, or whatever the name by which it has been called.

There are about three sources which give a supply in times when flowers are not yielding honey in this country, to this unwholesome or vitiated food for the honey bee. The disease is caused by the so called *honey* gathered from either cider, sorghum juice, the juice of grapes which has burst open from wet weather, or the product of the "aphis" or leaf louse called "honey dew," and some years, doubtless by all these together. None of these juices are gathered by the bees, except in times when the honey fails from all other quarters. Some kinds of honey dew are not only sought greedily by the bees, but appear to constitute wholesome food, when obtained, but I am confident that the so called honey dew yielded by red oak in the fall of 1869, caused most of the wide spread destruction of so many colonies all through the middle states and the far west, while the remainder was caused by the juice from bursted grapes, Also in 1871, after a long dearth of honey, caused by exceeding dry weather, just after the grapes began to ripen, we had excessive showers followered by hot sunshine. By two o'clock the next day, after one of these heavy rains, the scorching sun followed by the excessive flow of juice in the vines, had caused the grapes to burst their skins by the thousand. At least one third of the grapes would burst open within forty-eight hours, and the bees lacking all other forage, sought the grapes by the ten thousand for their spoils. Several pounds must have been gathered per colony during that week. But grape juice is not honey; and the bees were compelled to go into winter quarters with this substitute for their fall and early winter food; the consequence was, the colonies perished by the score when the ordinary treatment was pursued.

Sorghum juice has been gathered under like circumstances, and some falls is doubtless the cause of similar destruction. Vitiated food of any like character, whether cider, sorghum, grape juice, or the sweet juices which sometimes issue from punctures in the bark of the red oak, or the excrescences of the aphis, will all tend to produce dysentery, when the bees are confined to such food, and cannot fly out to void their excrement.

If, as was reported, the bees began to fly out and drop upon the ground, and thus die in early fall, they might have been saved by the use of the "honey extractor." Throw out from their combs all unsealed honey, and feed a little syrup in its stead, and the disease will disappear at once.

But as my plan of treatment carried my bees through each winter safely against all these odds, I will now proceed to give it; and would almost guarantee the safety of every colony put up in the order, and according to the plan of the following

CHEAP AND SAFE WINTER RECEPTACLE.

Have a well drained and dry cellar under the room that you use as a kitchen or sitting-room, prepared as follows: Run a tin tube one and a half inches in diameter, from the bottom of your cellar up through the floor

of your room, and into the back-side of your stove pipe, so that your stove will make a constant draft upon the damp vitiated air of the cellar. And then open a small hole in some part of your sitting-room, or kitchen floor, so that while the heated air in the stove pipe is drawing up the cold and vitiated air from the bottom of the cellar, the partially warmed air of your sitting-room may descend to supply the draft.

It will be seen at a glance that there can no stagnant air remain in this cellar, but it will be constantly changing, and be consequently kept as pure and wholesome as the air which is breathed by the family. Besides this advantage, the air will be kept 10 or 15 deg. above the freezing point, all the winter, at its lowest. A colony of bees in a cellar with the temperature at the freezing point all winter will be worse off than out upon its summer stand; for the honey in all parts of the hive, except within and above the cluster, will be freezing cold, and of course, any bee which ventures to go among these ice-cold combs, would become chilled and perish. Moisture would accumulate and run down upon the bottom board, mouldy combs would ensue, and these together with a constant chilliness of the outside bees of the cluster, and consequent uneasiness, would cause dysentery and death.

When your cellar is thus prepared, choose a warm dry day, after the bees have had a good fly, and after they are all in, just before night-fall, stop the entrance with a piece of paper, and set them one after another into your cellar, without jarring, and disturbing as little as possible otherwise. Slip a four-penny nail under each corner of the honey board, thus raising it about one-eighth of an inch for ventilation. Set the first upon a scantling, thus raising it slightly from the bottom of the cellar. The colonies can then be set one upon another, until all are in their places, mouth outward from the wall; then open a half-inch orifice at the entrance of every hive, and then close up the cellar, shutting out all the light, and your work is done. If this work is done, say by the middle of November, in latitude 40 deg., they need but little more attention until the middle of February, when if they show any signs of uneasiness, they may be set out upon their summer stands, provided a still, warm, sunny day occurs, but by no means set them out on any day when it is cool, cloudy or windy. If their first flight is upon such a day, thousands will be lost, and the colonies very much weakened. Let the themometer stand as high as 50 deg., and the day still, warm, and sunshiny, and they will have a perfect gala-day. Return them to the cellar in the evening again as before, and they should then remain until the trees and shrubs begin to yield pollen, when they should be set out for the summer, if possible, exactly where they stood the previous year, and upon a still, warm, bright day. Such a winter receptacle, and such an airing in February, has in all cases in my hands counteracted all tendency to dysentery, even with such vitiated food as named above. But the directions must be followed specifically, especially in the following points:

1. They must be put into the cellar when the combs are dry, and before hard freezing weather occurs, strong in numbers and with not less than 15 lbs. of good honey in the hive, not counting grape juice, sorghum juice, or cider, if they have gathered any. It would be better to throw it out with the extractor, if you can without exciting others to rob.

2. The cellar must be dry, well ventilated from the bottom, as directed above or otherwise, and kept at a temperature above 42 deg., but not much above 50.

3. Give them an airing the first warm, still, sunshiny day which occurs after the middle of February.

4. Return and keep them within the cellar till pollen can be gathered, the last of March, or the first of April, then set out upon their stands for the season, as before directed.

Ninety-nine out of every hundred colonies thus treated, with a store of good vegetable *honey*, or syrups, will come out of their winter quarters strong in numbers, and healthy in condition; and will not have consumed more than 10 lbs of honey, leaving enough to carry them on until the time of apple blossoms.

But supposing their food is so vitiated that they begin to die before time for winter quarters; or very shortly after they are put in, can they then be saved? Yes. But it will be at some trouble, and expense. Either warm up your cellar by a stove or take your bees, a few at a time, to a dark room that can be warmed up to seventy or more, and then if possible extract all the unsealed honey in their combs, and if you suspect that any of the vitiated honey is sealed up, uncap and extract so as to leave a brood nest not less than nine or ten inches in diameter. But if all their honey is vitiated, then feed moderately thick syrup, made of good white sugar, putting as much food to each hive, as will make two lbs. per month during the time they are to be confined, either all at once, or part at first and the rest when you give them their airing in February. At any time after they begin to show signs of disease, if you cannot do as above directed, remove the honey board and cover the frames with a piece of an old quilt, but invert a glass tumbler filled with good syrup, as directed for general feeding, directly over the cluster and upon the frames only raised up a little, by three or four small blocks from a fourth to a half inch in thickness. If they take in this syrup, which they will do if the cellar is warmed up a little, the disease will most probably abate. This process should be repeated, giving them a pound per colony every two weeks, as long and as often as any signs of the disease appear. Of course keep the quilt closely tucked around the tumbler to keep the bees from becoming chilled. The honey or syrup ought to be about blood heat when fed to them.

But the question will be natuarally asked:

WILL THIS DISEASE BE LIKELY TO RECUR OFTEN IN THIS COUNTRY?

The bees will be likely to be affected more or less in locations where a drouth occurs as long as they have access to grape juice or sorghum juice, or the juice of the apple. But no matter how dry the weather, the bees can never reach the juice of the grape or or apple unless punctured by other insects or birds, or else burst open by hot and wet weather, following immediately after the drouth. For a bee never yet, of itself,

gnawed through the skin of a grape, or an apple.

The cultivation of sorghum is on the decline, so there is decreasing danger from that quarter; besides the bees only take its juice as a matter of last resort. So if there are fall flowers in reach, even but a few, the bees will not take this juice.

The grape juice only lasts four or five days before the injured grapes dry up, or turn sour, when the bees no longer seek to take up its juice. Knowing the remedy, we can avoid the danger, by setting the bees in a dark cellar during this brief interval. Or if only few grapes are cracked open, the danger is so trifling, that we may pass it by with indifference.

SPRING TREATMENT.

If in the spring a colony is found to have dwindled down to a little cluster insufficient to keep up the heat necessary to rear brood, a brood comb should be given them from your strongest stock, with the young bees just issuing, provided there is a healthy queen in the weak colony. Any weak colony should be strengthened in this manner, provided we wish to save them; otherwise unite them with another colony, reserving the best queen for the united colony.

But we will now suppose that it is the first day of April, and the bees are all upon their summer stands ready to begin anew their season's work; but there are no flowers and not likely to be any for 4 or 5 weeks yet. The weak have been strengthened, the hungry fed, and all crevices securely stopped up, except the fly-hole in front, but

THE SEASON OF DANGER AND CARE IS NOT THEREFORE PASSED.

Indeed a very large proportion of the colonies which die, perish between this date and June 1st. But it is not only our object to keep them from perishing, but to make each one a strong, first-class colony. How shall this be done? A little syrup given each day (as above directed) or, every other day, will not only keep from *starving*, but stimulate to *rapid breeding*. We have now —April 1st—just time for the hatching out of two broods, and 15 days over for the maturing of the last brood, before the blooming of white clover.

All the eggs laid on or before the 1st of April will issue on the 20th. If the combs are again filled about the 20th, the next brood will issue about May 10th. These last will be ready to go forth as *honey gatherers* on the 25th, just about the time that white clover begins to open its first blossoms in the latitude of New York.

Let the process then of feeding begin, in about sixty days before the bloom opens which is expected to yield the largest supply of surplus honey; and your bees will be in the best possible condition to gather it. For every ounce judiciously fed before apple blossoms appear, a pound of honey might be expected as the increase. Thus a gill once in two days, in the absence of honey-yielding flowers, will insure against starvation and a double yield of honey at the same time. Also a frame of empty worker comb, from the outside, may be inserted, once in a few days, as the cluster increases, into the middle of the combs containing brood; but we must be careful to have no more combs there than the bees can cover, else the brood would perish if a cold spell should occur.

If the bees are then brought safely to the commencement of the blooming of clover, it may be said of them, the season is passed and the (old) harvest is ended, and our bees are fairly saved.

Henceforth, the *weather*, the *kind* and *quality* of *bloom*, the *skilful handling*, of colonies, as to *surplus honey*, and *multiplication of swarms*, must determine their fate, and the yield of profits in dollars and cents, or golden nectar.

For the present my task is done, and I close by wishing all manner of sweet and blooming flowers yielding the same, to cover the lawns and meadows over which the busy bee may roam with its musical hum; and also to all bee-keepers who truly love its pleasant appearing, the joys of sweet smiling plenty in lands where "milk and honey flow," in ample abundance, both here and in the great hereafter.

How to Keep Bees Successfully During Winter and Spring.

AN ESSAY BY DR. RUSH, READ BEFORE THE NATIONAL B. K. ASSOCIATION, OCTOBER 26, 1876.

How to keep bees seems to be a rather insignificent query, for many times they keep themselves without the aid or attention of man. But to keep bees *successfully*, is the desired object, and the goal to which all aspire. With all our noted apiarians, such as Langstroth, Quinby, Tupper, and others, as leaders in apicultural science, we yet find difficulties to encounter, that their wisdom has not sufficed to lead us to that desired haven—"perfect success."

Their advice has kept us from being dashed against many a breaker, they have given us light in many dark places, opened up new ideas, settled doubts, and added much to the accumulating fund of apicology. While a Huber has given us a bar hive, Langstroth the frame hive, Italy a superior race of bees, America the honey extractor—with all our knowledge, experience, experiments and useful appliances, the cry is still for greater "success." Man is not satisfied, but still grasping, until like Alexander the Great, who after he had conquered all nations, wept that there was no more to conquer.

We have accomplished a great deal during the past twenty years, and our results have been very successful, compared with the other products of vegetation, it being governed by the atmosphere and climate, none of which are invariably successful. Our knowledge of bee-keeping is not yet perfect and we have much yet to learn, but to suppose that we are to reach a point of perfect success is not admissable, for the various conditions that a colony of bees is subject to does not admit of it. But that we may attain a greater success is the dessideratum of our essay.

Before wintering we must first prepare for it; certain conditions are requisite to enter upon that season of storms, snows, freezes, etc., which interests a Southern bee-keeper but little, bee moths are his storms, and the lack of honey his freezes. Then first we will consider

HIVES.

They should be made of good material, well jointed and painted, so that there be no place for admission of air, moths, etc., except by the regular entrance for the bees, the Langstroth size of hive is the nearest to a standard for capacity, and is the most popular hive in use. They should be two stories, top and bottom close fitting. Entrance for hives full width for summer and one-fourth for winter. Hives should be protected from the weather by a shed eight feet wide and closed up on the west, north and east so as to protect them from wind and rain. If there be good wind breakers on the sides named, and high enough to break all north and west winds, then the shed could be dispensed with. Weak colonies should be put in the cellar or the so-called bee house. I do not propose, nor aim in this essay, to advise the keeping of a number of colonies in various conditions, but to give directions for wintering good colonies —yet I will refer to wintering queens.

In my own apiary, and in that of many others, where the colonies were properly prepared they came through the winter all right. There are so many variations in the conditions of colonies that it requires great care to have all the different points noticed, for one out of twenty would ruin the colony if unobserved.

PREPARATIONS

should begin about twenty days before the usual time for frost. Examine the queen and see that she be prolific; she should have at least as many as three combs in which to deposit eggs, four will not injure them. If she have not room then take out combs of honey and give empty ones placed in the middle of the hive; should you not have empty combs then use the extractor on those that are least capped. Should the hive contain too many bees and they be hanging outside—then brush them off and unite them with a nucleus in the usual way of uniting colonies; close up the entrance and give plenty of ventilation, and on the evening of the fourth day open them.

Should you leave too many bees in the hive at this time of the season, it will hinder brood rearing by crowding out the queen; then you have old bees to winter with. It is my experience that old bees cannot generate as much heat as young ones. then in the spring, soon after your bees begin to fly they die off, and your colony is so reduced that brood rearing cannot be carried on sufficiently; the hive becomes so weak that it perishes during a cold spring night, and if it does not perish, then it is too weak to swarm or gather much honey; then much depends on the age of bees for wintering. With these preliminaries you will begin the winter preparations. Notice the hive every ten days; see that it is progressing as it should.

Buckwheat and golden-rod will now furnish honey for brood rearing and winter stores, and as soon as

FROST OCCURS

to cut off the honey supply, then make a thorough examination of all the colonies; see that they have a queen; clean out the hive; see that they have seven full (and capped) combs of honey, or combs full at least. Where stocks are not strong unite them with others. Make openings through the combs so that the bees may pass through for honey in cold weather. Holes to be cut should be three inches from the top bar, equal distance apart and from each end. Cut two holes in each comb with a tin tube five-eighths in diameter, see that they still have two or three combs for brood. In extracting at this time, do it about the middle of the day and return the combs after the bees quit flying; close one-half of the usual entrance. If all have not seven frames of honey, then feed them; some hives may have too much while others are short, equalize them, and should you still lack, then feed sugar syrup.

Take of crushed sugar, two lbs.; water, one lb., boil, skim and set away to cool. Have empty combs ready, have a board 16x24 inches. Take a common 3 lb. fruit can, perforate the bottom with holes, made with a 10d. nail, lay your board with four inches slant, lay on it your comb. Now have the syrup milk warm, add one teaspoonful of flavoring extract of lemon to each half gallon of syrup, stir gently. Now hold your tin can about a foot or more above the comb and with a tin cup pour syrup into this can, passing it around over the comb and as soon as full, turn the comb over; as soon as filled hang it up and let the syrup drain off before putting combs in the hives. In this way you save 20 per cent. of the syrup over the old tin pan or any other way, for it is already in the comb and ready to be sealed up. Your bees are now to

REMAIN QUIET

until about the middle of Nov. or about the time that freezing begins; do not wait until the great frosts come. But what shall be done with colonies that are still weak? Unite them. We often have queens in nuclei that we will need in early spring; these may be wintered out-of-doors, if they are not too weak. Make a hive with four apartments; have the two middle rooms with an entrance for one in front and the other in the rear, the two side ones with an entrance at each side. In this hive you may winter four queens if you have three pints or more of bees to each queen. Have the divisions made of wire-cloth, the entrances one inch by three-eighths, each department to hold three combs, two of honey and one of brood. Protect this hive by wrapping it up with old clothes during severe cold. A noted bee-keeper has adopted this method after trying many times the house apiary and various other plans.

If you have properly cared for your bees, they are at this time in a fine condition, such as plenty of young bees, plenty of sealed honey and a prolific queen—at the middle of November.

Now procure some bagging or old, coarse coffee sacks; if near a cotton mill, then get the bagging which is cheaper. Also some oat chaff, cut oat straw or fine leaves (chaff is the best), also some sticks half an inch square and the length the same as the width of the hive inside. With these preparations you will now finish your

WINTERING.

Open your two-story hives, take out all the combs and empty frames in the second story, if there be any honey brood remove it, put on three sticks across the frames, equal distance apart and open each end. This is to give the bees a chance to pass over the combs. Now cut a piece of bagging ½ inch larger than the inside of the hive; if it be

thick one thickness is sufficient, but if not, then two; put on the bagging, see that it fits well, so as not to let the chaff through; put on the second story and fill two-thirds full of chaff, and close the hive tight, except one-half of the usual entrance. Shade the entrance so that the sun's rays will not enter the hive. The philosophy of this plan is this: the bagging lets the evaporation from the bees pass up through it into the chaff, which is a powerful absorbent of dampness. Some advocate straw mats, but they have their objections; the dampness is not absorbed but carried through the pores of the straw, and in case of hard freezing they are stopped up; also in case of rain and sleet, if they be not covered by a shed; lastly, they are too expensive for a large apiary. I need not stop to explain the cause of dampness in the hive, for all know that after a long freeze if you open a hive you will find a large quantity of frost adhering to the walls of the hive; and if bees are put in a house or cellar and the temperature goes below freezing point, they will show more frost or dampness than if in the open air.

Five points need to be observed in a hive for wintering. A good, tight and dry hive; 2nd, no drafts of air; 3rd, a good queen; 4th, young bees and sealed honey. The 3rd and 4th are more necessary for spring. Some may say that that they can't have the hive to contain young bees, another that he cannot have sealed honey. Well, I have directed you and if you do not come through successfully, then do not blame this essay. Unite a sufficient number of your weak colonies to make one of the proper condition. I would prefer to start into winter quarters with one good colony than four poor ones. If you must take them through, winter them the same as you would queen nuclei, or division hives for wintering queens.

Methinks I hear many asking, "How it is that there was such a fatality among the bees during the past four years?" That is easily answered:—the great success with bees in 1870 and 1871. About this time patent hives and Italian queens had a swarming trade; two new bee journals started: increasing was the order of the day, but in 1872 and 1873 (the winter) a reverse of success came; but not yet daunted the novice increased his bees to infinity again, and the winter of 1873–4 showed a much greater fatality; so in 1874–5 the result was about the same as 1872–3. In 1875 the patent hive business declined terribly, Italians increased, the people refused to be duped any longer by hive vendors; and in 1875 they did not want any increase, but honey, so as to pay for their hives and patent moth traps. And the consequence was less increase, stronger stocks, plenty of honey and little or no disease or loss; and the wintering of 1875–6 was a reasonable success. I am safe in saying that the greatest cause of the disasters for the past four years has been—over-increasing.

After having prepared all your colonies properly, leave them undisturbed until severe freezing sets in, then wrap some old clothing around the hives in which you are wintering queens, and no others need it; then leave them until a big thaw in the spring; then leave the cover off during the day for the chaff to dry out. As soon as frost is over, take off the chaff and second story, the sacks and sticks, shake the bagging and put it on again. A fair warm day should be taken for examination of the bees. As soon as breeding begins, which is governed by locality in which the bees are situated. At Pittsburgh, Pa., it begins from the 1st to the 15th of April; in New England states last of April; and if the bees were properly prepared they will now be found in fine condition and ready for

SPRINGING.

Commence breeding by stimulating the bees with uncapping a comb or feeding sugar syrup; prepared and fed in the same manner as directed for fall feeding. You must ascertain how much your hive contains so as to know how to feed. Do not allow them to get short of rations, for if you do they will destroy their brood; the queen will cease depositing eggs, and I care not how much stimulating you do, you cannot start again for a fortnight: and just here let me say a great many stimulate their bees for a time until fruit bloom, then they think that will give plenty of honey, but it does not, then the bees drag out the larvæ, the queen quits oviposition and it is two weeks before any honey comes in, and another week before breeding begins again. It is now time that they should be able to swarm, while they are not yet starting a queen cell, and here is where you make your mistake and springing is a wreck.

Breeding should commence six weeks before the swarming season, and these six weeks will decide your success for summer. After breeding fairly begins do not allow your bees to be short of stores for one day, for just here is where work begins for a successful summer. Feed in a comb placed on the outside of the brood chamber. Ordinarily a hive should be fed once a week, and from 1½ to 2½ lbs. of syrup, as the demand may appear. We have a good example from England this year. Those that fed regularly succeeded beyond all expectation, and those that did not, lost their bees. The whole year depends more or less upon the springing. To know how much feeding should be done, feed sufficient to have at least a half of a comb full all the time. Bees should have water convenient to their hives. Artificial pollen should be given liberally. As soon as breeding begins, place pieces of comb in the flour for the bees to rest on while loading themselves. Some salt water convenient will draw many bees; continue the feeding until you are sure that the bees get plenty of honey; and at any time after this, should rain or cold weather occur to stop the flow, then feed again. After a good yield of honey begins, take out your queen nuclei and make full colonies or give them to queenless ones. This brings us to

SWARMING TIME.

There are three ways of increasing bees, natural swarming, artificial swarming and the nuclei.

As to natural swarming we are never sure at what time swarms may appear, and very often do not swarm at all and cause disappointment to their owner, after many days of watching. A great many "lounge around the corners" and the hive becomes idle and if used for box honey, does little or no good; but if extracted it will set them at work. Again, they swarm before they have queens near ready to hatch; it is ten or twelve days before she is fertilized and from

six to ten before she deposits eggs, making about eighteen days that the hive does no brood rearing equal to one generation of brood, and reducing the bees about thirty thousand,— equal to a common swarm. Again, the young queen may get lost on her bridal trip and cause another long delay to raise another, which they cannot do unless supplied with eggs and brood. The swarm is liable to go off; and last but not least they swarm too strongly and leave the mother hive very weak. In this state I have seen them swarm to death, and at the first swarming too. The artificial mode is not so objectionable as the natural swarming; but has enough to discourage its use. I much prefer the nuclei mode of increase, which will give greater success than either of the other two, and I should not deem my springing successful without it. The natural or artificial modes need no description as they have been so often explained in the books and journals.

First, as soon as your hives become strong and honey is gathered, take the queen out of the hive in which you wish to raise queens. If one hive is not sufficient, use another; after your cells are eight days old, then cut them all out and put them in a queen nursery to be hatched. If you have forty hives, then put nine cells into your nursery, (always keep one extra), or for twenty hives, put in five cells. Start new cells every week as long as you wish to increase, which can be done while the bees gather plenty of honey. As soon as your queens hatch, begin at one end of your apiary and take one frame of brood from each hive, as nearly capped over as you can get it, with adhering bees (be careful not to take the queen out), have ready an empty comb to replace the one you take out, and if an empty comb, then give them a frame. Continue in this manner until you have taken five frames of brood, then put them in a hive and place them where you wish them to remain; now get a queen from your nursery; put the queen in a cage and introduce her to the nuclei; let her remain for one day, then let her out as quietly as you can. Continue this operation until you have gone through all your strong hives, and continue this operation every week as long as you wish to increase and the bees are getting plenty of honey. The hatched queen will be laying eggs; in from six to ten days the brood will be hatching, and by this time you will have a good swarm. The parent hives are not perceptibly weakened; your nuclei has its hive half full of comb, and in a week or more will be full. You have lost no time in the old hive by the absence of a queen; the loss of brood is not missed, the yield of honey is not lessened, and it gives the comb builders a chance, and your nuclei at the end of two weeks is in just as good a condition as by any natural or artificial swarming.

But springing is now over. I have shown you a successful path through winter and spring, and have led you into summer, now while you are looking over your fine lot of honey and rejoicing over your success, I will, with one explanation to follow, step out and wait until you feel like offering a greater prize for summering and falling.

EXPLANATION.

It is presumed that a large majority of bee-keepers have a full knowledge from books and journals, experience, etc., so that it would be in vain for me to take up their time in telling them, in this essay, how to start cells, rear queens, introduce them, also how to increase them during fall (that is the number of bees in a hive), how to tell a queenless hive, moths in a hive, amount of honey and a thousand and one things, necessary in the management of bees that are not at all called for in this essay.

Louisiana, Sept. 30th, 1876.

Wintering Bees.

AN ESSAY READ BEFORE THE NATIONAL BEE-KEEPERS' ASSOCIATION, OCT. 26, 1876.

My plan of wintering and springing bees is to put two swarms into one hive. Have two or more swarms near together, and in this latitude about the first of October arrange them for wintering. Make an outside case large enough to pack with chaff between. I use a frame 10½x14 in. long, and make the outer case 3 feet long by 20 in. wide and 22 in. high. Then I get out two boards 13 in. wide and as long as the case, and place them on the bottom board and the right distance apart for the frames to hang in. The next thing in order is to prepare three division boards—one to be used in the middle between the two swarms composed in part of wire-cloth, so as to give each swarm the heat of the other. The others are to be placed outside of the bees so as to admit a good quantity of chaff at each end. Make the entrances in the side of the hive according to the position of the bees before they are transferred. Also make a bridge like this ⌐ and place on the bottom-board for the bees to pass out under. After the bees are in, pack with chaff all around and on top, with quilts over the bees and two or three small sticks over the frames.

It is generally admitted that strong stocks winter the best, and this arrangement secures all the advantages of strong stocks and some that do not exist in single stocks; as for instance, if one queen is lost it is very easy to unite the bees. They will breed faster in the spring than if separate. In using the extractor I separate them when they crowd their quarters the next season and remove the chaff at the ends and division-boards when necessary, and allow the packing to remain at the sides continually.

WM. H. S. GROUT.

Poland Center, N. Y.

For the American Bee Journal.

Introducing Queens.

MR. EDITOR:—We notice in the September number of the JOURNAL that Mr. Dadant criticises quite severely the method for introducing queens, which you published from our circular, in the July number. We are not offended at this, as criticism and discussion elicit truth. The method that you, Mr. Editor, abstracted from our circular was published for the benefit of our customers and ourselves, and of course, was and still is the best method that we know of. In fact we do not hesitate to say that if properly done (and the conditions are simple), not more than one out of two hundred queens will be lost.

We do not claim to be the inventors of the method, as Mr. Quinby recommended it

years ago. We acknowledge that this method cannot always be used, as the person who wishes to introduce a queen cannot always know when she is to arrive. Whenever it is possible, we notify our customers 5 or 7 days in advance of sending queens, so that they can have their stocks ready. Not a few also, order queens sent at a certain time, when the colonies will be in readiness. All good things have their bad points, and this matter of time is the only drawback to the method of any account. The fact that the stock is queenless so long, amounts to very little, as more vacant place is at hand and a prolific queen quickly occupies all the space.

We believe that failure with this method generally occurs from leaving the stock too long. If not attended to until the tenth day, a young queen is often hatched, and she is difficult to find. If she remains, the queen to be introduced is imperiled. We notice that failures with any and all the methods, do not occur frequently with energetic bee-keepers who know their trade. This forces us to believe that most of the failures are due to inattention and inexperience. After a stock has been queenless seven days, it is a very easy matter to find all the queen cells, as they have attained a good size. Commencing at one side, lift out or slide back the frames until you come to brood, pick up the frame and grasping it firmly, give a strong, sudden jerk downwards. This dislodges most of the bees, and the cells are in plain sight. With a pointed instrument pick off all the cells. Proceed in this manner through the brood nest, place all back, close the hive, roll the queen in honey, drop her in through a hole on top, and if you have done your work thoroughly, you need not fear as to results.

Mr. Dadant admits that two queens do sometimes exist in a colony, and the one remaining kills the one to be introduced. The seven-day method effectually prevents this loss.

After the September number of the JOURNAL was issued, several of our customers tried Mr. Dadant's plan, and three that we know of, reported failures while one reported success.

The method of carrying queens for 36 to 48 hours has with us, and with many of our customers, failed to give good satisfaction. When a strong queen is taken directly from a nucleus or stock and put into a cage, the stock just made queenless recognizes her royalty and generally feeds and cares for her, but as she is caged they generally start queen cells. If the bees are fickle, as hybrids and blacks often are, the queen is in peril when released, unless these rudiments of queen cells are removed. But with queens long confined in cages, when subjected to rough treatment in the mails, the case is quite different. To such this caging is most pernicious. We would much rather keep such a queen in a cage supplied with food in our vest pocket, than in a stock of bees, unless food is supplied to her in the hive that the bees cannot get. Even then they seem to prosper better out of the hive, if kept comfortably warm.

We consider the reasons to be these:—The bees know that this queen is strange. She is in a cage and can do them no good. They have plenty of material from which to make a queen. Considering all these points they conclude to let the queen alone, and many times these queens are starved to death, unnoticed by the bees while they are constructing cells. If perchance the queen is alive, the queen cells must be carefully taken off to insure her safety when released, and even then the bees may see fit to start others, sometimes killing the queen at once, at others they keep her for a considerable time, sometimes until the queen cells hatch. During all this time she is kept from laying, sometimes so badly abused that she looses her fertality.

We do not overdraw the case, as we know just such a case this summer with a neighbor, and have known them before. We do not say that success cannot attend this method. We have often succeeded with it. But it is attended with much uncertainty as we are at they mercy of the bee's whims. When a cage is used, it should have a tin band nearly two inches wide at the top. Through this put two small holes ¼ inch from the top. Put in the queen, insert a sponge well filled with honey, stick a large pin through the sponge and through the holes, and hang the cage in the hive. The honey-board or quilt keeps the bees from the top and the queen is secured plenty of food.

When queens are received on short notice we proceed as follows, and succeed well. Go to a stock in normal condition, remove the queen, let the stock remain until evening (it is best to remove the queen early in the day), then take out the combs, forcing the bees to fill themselves pretty well with honey, by the use of smoke. Have some sweetened water, scented with anise or peppermint, in a small sprinkling pot having a fine spray. Spread this evenly over the bees and combs, taking care not to get them too wet. This makes them peaceable and disguises the presence of the queen who can be allowed to run in, or better still, she can be rolled in a little honey and dropped among the bees when the hive is closed. If this is done in the evening, robbers can do little or no harm, as by morning the bees have everything in order.

If honey is scarce or the stock weak, contract the entrance to give them the advantage of the situation. In three days look in, and if queen cells are started take them off. Examine again in seven days, to remove any queen cells that may be started and to see that all is right. We consider the last two methods good, when circumstances require their use. But with them the bees have the power to do as they like. With the seven-day plan they have no alternative but to accept our terms. We hope to hear from others upon this subject.

J. H. NELLIS.

Canajoharie, N. Y., Oct. 16, 1876.

For the American Bee Journal.

Notes by the Way.

We are quite ashamed of our treatment of you, dear old BEE JOURNAL, even though it has been altogether unavoidable. We do not know, really, how many promises we have made to write for your entertaining columns, but we *do know* that many of them remain unfulfilled. But the busy season is nearly over, and with the advent of the winter months, we shall endeavor to make all of our promises good, if scribbling

will do it. It's no easy task to sit down and pen a newspaper article when one has his head and hands full of business; if somebody thinks it is, why just let them try their hand at it.

The honey season is over for '76, and we may safely say that the centennial year has been a failure with us, so far as honey is concerned. The spring was cold, backward and wet, which wasn't at all conducive to strengthening up our decimated stocks very early in the season. The "June roses" (or something else) brought warmer weather, and——rain, rain, rain. For more than two weeks it rained almost incessantly, which of course delayed the advent of the basswood bloom. Finally it cleared up and then came a period of intense heat. Day after day the mercury wandered among the nineties, and when the linden blossoms came it was only to make a call, and a brief one too. It usually yields honey about twenty days, but this season could only afford us ten. Even during this brief period the flow of nectar was very moderate.

The scorching heat still continued, though the bees obtained a little honey from some early sown buckwheat, enough to prevent robbing and to stimulate brood rearing.

The fall harvest commenced about the 10th of August and continued for some 15 days; bone-set, fireweed, and buckwheat being the chief sources of supply. The yield of honey was only moderate, not so good as in former seasons. August is usually the best honey month of the whole season with us; and even this season we would have obtained a fair amount of surplus, had it not been for an unfortunate investment in the comb foundations, about which we may have something to tell the JOURNAL one of these days. The season has been quite poor throughout our entire State, but we learn from our Illinois correspondents that it has been an unusually good one in the "Sucker State," and right glad are we to hear it. We are pleased to learn of the success of our brother apiarists everywhere. We know from experience and observation in this particular field of rural industry, that a man fairly earns all that he obtains, and in too many cases much more than that amount.

We started out with the full intention, Mr. Editor, of giving you our experience with the house apiary, but as it is getting late and we are getting sleepy, will defer it until next month, when we will tell what we know about that particular item, which goes to make up the sum total of modern apiculture. When we take a retrospective glance over these past twelve years, we are led to exclaim with that good old lady, Mrs. Partington, "bless my stars, how our American people do take to new-fangled fixins." We wonder if her son Ike wasn't a bee-keeper? Good night.

HERBERT A. BURCH.

South Haven, Mich., Oct. 19, 1876.

For the American Bee Journal.

A Chip from Sweet Home.

In August my wife and the "old block" from which the chips fly, gave Dr. Derr—living 13 miles distant, near Keithsburg—a fraternal call. The Doctor's apiary numbers nearly 100 hives. He runs them for profit; movable frames (Langstroth), slinger and black bees. He had 100 6-lb. boxes piled in his kitchen, also a quantity of slung honey. A number of his hives are close by his honey. We were surprised to see "nary a bee" prying into those boxes; the doors and windows being open.

My house is 10 rods distant from the apiary, and a little honey on the table covered will attract our Italians, so that we have to close the door. His blacks and my Italians were neither gathering any honey. Italians will find honey or any sweets in more secret or distant places than blacks; this fact we have noticed several times. The Doctor lacked shade; for a few he had tried some corn hills, which he said gave him all the shade he wanted. He has adopted the slates, as well as some other neighbors. Bee-keepers try the slates! they cost but one cent each, and report.

D. D. PALMER.

Eliza, Ill., Oct. 16, 1876.

For the American Bee Journal.

Southwestern B. K. Association.

Persuant to a call issued at the preliminary meeting here on Aug. 17th, a number of bee-keepers met and effected a permanent organization by electing the Rev. Dr. Marshall, of Marshall, Texas, president; Wm. L. Gordon, of Shreveport, secretary; and J. M. Bowles, of Shreveport, treasurer.

On motion, resolved, that the name of this association shall be called "The Southwestern Bee-Keepers' Association."

On motion, resolved, that the chair appoint a committee to draft a constitution and by-laws, and report the same at our next meeting. The following gentlemen were appointed: Wm. L. Gorden, J. M. Bowles, Col. L. L. Tompkins, and W. D. Wylie.

On motion, resolved, that the reading of essays, etc., asked at the preliminary meeting to be read to-day, be deferred until our next meeting.

On motion, resolved, that any person wishing to become members can do so by enrolling their names. The following names were enrolled: Rev. Dr. W. K. Marshall, and J. E. Jones, of Marshall, Tex.; Geo. W. Stoner, Wm. L. Gorden, J. M. Foster, Dr. J. F. Davis, J. M. Bowles, W. E. Paxton, Rainey Carter, and W. D. Wylie, of Shreveport, La.; Capt. O. L. Durham, Keachi, La.; W. C. Hill, of Jefferson, Tex.; G. W. Jefferson, Kingston, La.; and John R. Williams.

On motion, the meeting then adjourned to meet in Shreveport on the second Wednesday in March, 1877, at 10:30 A. M.

WM. L. GORDEN, *Secy.*

For the American Bee Journal

How to Increase the List.

I notice that several persons have offered to give premiums to the one who sends the largest number of subscribers to the JOURNAL before Jan. 1, 1876. All this is good and just right, but it strikes me that we can increase the number of subscribers in another way. My plan is this: Let each subscriber and reader of the JOURNAL make up his mind to send one new name at least. Now let us go to work and do this before the 1st of January, so that when the

new year comes the list of subscribers will be just twice as long as it now is. I intend to find one new name, and if I can't find a man who will subscribe I will make some a New Year's present by sending them the JOURNAL for one year. I have no doubt that we can find (each reader I mean) several new subscribers if we go to work in earnest. I hope no one will read this and not think of it again. Let us make THE AMERICAN BEE JOURNAL the best in the world.

When a stranger writes me concerning bees I always urge him to subscribe to the A. B. J., unless he is already a reader, and I don't forget to give him its address.

We met Bro. Newman at the Convention at Philadelphia, but could not get a chance to talk with him about the above way of increasing the circulation of our favorite JOURNAL. If a few queens, a good bee hive or a good honey extractor will add many names to the list we would be glad to furnish them, but let us in every way increase the number of readers. If friend Newman will give the name of the person who sends the largest number of subscribers I will try and coax him to accept of a present of some kind if anything I sell will be acceptable to him. H. ALLEY.

Wenham, Mass., Oct. 31, 1876.

[Certainly, friend Alley, we will publish the names, and thank you for the liberal offer and suggestions. We hope every subscriber will act upon friend Alley's suggestion.—ED.]

For the American Bee Journal.

Comb Foundation.

MR. EDITOR:—Through the A. B. J. you wish to get the experience of those who have tested comb foundation. I have used a large amount of it this season, and have not read or heard anything that gives justice to its great worth to the bee-keeper. I am astonished that those who say they have tried it and understand the bee business should say that it is cheaper to let the bees build it than to buy it. Perhaps they can drone comb, but not worker; and perhaps they cannot. But we shall see.

Now all bee-men know that bees build comb quickest when hóney is plenty and bees strong, and at this time they naturally want to build drone comb, and some bees almost refuse to build worker comb at that season. With the foundation you have a beautiful straight card of all worker comb, every time; and this is just what we all want.

I had a swarm in July that would draw out a card, 12x12, every 24 hours and fill it with eggs. This I kept up for 8 days, making 8 full cards out of one pound of foundation; that being worth $1.00 per lb. in large quantities, make the cards cost 12½ cents each. I might just state here that there is material enough in the foundation to draw the cells out full length, without any additional wax; this I have tested by weighing it as soon as finished, by removing what little honey might be stored it.

Now supposing it takes 25 lbs. of honey to make this one pound of comb, which I believe is what has always been estimated by scientific men, this at 20c. per lb. would be $5.00, which is $4.00 in favor of every pound of foundation, besides the amount of labor saved for our bees. I would like to see a swarm that would build a comb 12x12 per day for 8 days, and get 4 out of 8 worker combs, in a hive not exceeding 14 frames of the above size; allowing they did build the 8 combs in 8 days which I think will never be in our *short days*.

The best way I have tried to put it in the frame, is to cut the piece the full size of the frame, less ⅛ inch at the bottom and ⅛ in. from the sides of the lower half; and the upper half if waxed on the top and down half way will hold it firm, and you will always have straight and beautiful comb. This waxing is best done by having a board fit the inside of the frame and lay the foundation on it while running the wax around. I have done as many as three in a minute in this way. W. G. WALTON.

Hamilton, Ont.

For the American Bee Journal.

The Bee-Wolf.

I read in your valuable BEE JOURNAL on page 257 (October, 1876), a very interesting article headed "Bee Killers." Though these enemies of bees,described by Mr.C.V. Riley, are not to be found in Germany, we have a somewhat similar bee killer who did much damage to our bees last summer. It is popularly known as the bee-wolf. This insect resembles somewhat the common wasp, only it is slender.

The bee-wolf is of the wasp species and lives alone—single. The female digs a funnel 12 inches deep in a sunny and sandy place; then it catches a bee, kills it with its weapon and carries the dead body into its funnel, where it lays an egg on its prey. This egg will hatch very soon and the larvæ will feed upon the dead bee.

The bee-wolf catches the bees in the air or on the entrance of the hive. It preys almost exclusively upon the honey bee. Never before have German bee-keepers seen such swarms of these bee killers as during the past summer. There was no remedy to prevent the damage of this cruel insect. The hives were depopulated; in consequence, our honey harvest was much smaller than the year before.

C. J. H. GRAVENHORST.

Brunswick, Germany, Oct, 25, 1876.

A TOWN LOT FOR NOTHING.

We would call the attention of our readers to the advertisement of the Ohio, Kentucky and Texas Land Company, and to their very liberal offer. The Company is only carrying on, on a large scale, what is done every day in our large cities- selling alternate lots to induce settlers and increase the value of the remaining lots—with this difference: that this Company GIVES AWAY their alternate lots. Mineral City is a growing town, and will undoubtedly become a large city, when the lots that are now given away will be very valuable. The offer is *bona fide*, and only open for thirty days, as the demand will exceed the supply, and the Company will not dispose of all their lots free. The Company is composed of reliable gentlemen, and our readers can be assured that they will, by complying with their instructions, receive, by return mail, a warranty deed to a town lot, which can be held for further use, or sold, or settled upon, as the owner may please.

American Bee Journal.

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Our Premiums for Clubs.

A. G. Hill has sent us one of his Gas Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before January 31, 1877. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

D. A. Pike will present one of his beautiful Albino Queens—whose progeny will be one-half Italians and one-half Albinos—to the getter up of the *second* largest club of subscribers. The Albino will be sent, postpaid, May 1, 1877.

We will add the following:

For the *third* largest list, we will send a tested Italian queen in May, 1877.

For the *fourth* largest list, we will send 500 young tulip trees (4 to 8 inches high) in April or May, 1877.

For the *fifth* largest list, we will give a copy of THE AMERICAN BEE JOLRNAL for 1877, post-paid.

For the *sixth* largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 315 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once*.

Honey Markets.

CHICAGO.—Choice white comb honey, 18@25c. Extracted, choice white, 8@13c.

CINCINNATI.—Quotations by C. F. Muth. Comb honey, in small boxes, 15@30c. Extracted, 1lb. jars, in shipping order, per doz., $3.25; per gross, $36.00. 2 lb. jars, per doz., $6.25; per gross, $70.00.

ST. LOUIS. — Quotations by W. G. Smith. Comb, 20@25c. Extracted, 10@12½c. Strained, 7@9c.

INDIANAPOLIS.—Quotations by Barnum Bros. & Co. Choice comb honey in small section boxes, 18@20c.; extracted in 50 and 100 lb. cans, 12@15c; 1 lb jars $3 per doz.; $35 per gross. Mason quarts, with comb, $8.50 per doz.; $95.00 per gross.

SAN FRANCISCO.—Quotations by Stearns & Smith. White, in boxes and frames, 10@15c. Light, 7@9c. Dark, 5@7c. Beeswax, 27½ cts.

We have no change to note in quotations of honey. Stock working off fairly. Beeswax is dull at 25@27½c. silver.

Nov. 15, 1876. STEARNS & SMITH.

We will present 100 tulip trees to any person sending one or more new subscribers for 1877. See Club Rates on page 315. The trees will be from 4 to 8 inches high, and will be sent in November or May, as desired. Those desiring these trees must mention them when sending in subscriptions.

☞ We have received a nice stereoscopic view of the apiary of friend Will M. Kellogg, Oneida, Ill., for which he will please accept our thanks.

☞C. F. Muth reports honey trade lively but at prices slightly reduced from last year's figures.

GREGORY'S SEED CATALOGUE.—Our readers will find the catalogue of J. J. H. Gregory's well known seed house advertised in our columns. For freshness and reliability of the seed sent out and enterprise in introducing choice new vegetables to the public, Mr. Gregory is endorsed by the prominent agriculturists of the United States; as recommendations from over forty States and territories to be found on the cover of his catalogue, amply attest.

MICHIGAN BEE-KEEPERS' ASSOCIATION. —The tenth annual session of the above association will be held in Kalamazoo, Mich., on December 20 and 21, 1876. The established character of this association, so widely and favorably known among scientific apiculturists, renders an extended notice unnecessary. The public need no assurance from us that the coming session will be one of rare advantage to all who are interested in bees and honey. HERBERT A. BURCH.
South Haven, Mich.

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